A Lecture

ON

SYRINGAL HÆMORRHAGE INTO THE SPINAL CORD.

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GENTLEMEN,—The human frame is the most complex and elaborate structure known to us. It is not surprising, therefore, that its development should sometimes fail to achieve completion or that this failure should occur in the most elaborate of all its parts, the central nervous system. Defective development is found most frequently in the spinal cord and it is to one effect of this imperfection that I ask your attention to-day. The precise defect we are concerned with is that which entails the presence of peculiar cavities in the cord. Such cavities have been ascribed in some cases to other causes. To this I will refer presently, but it is certain that they are often, and perhaps generally, the result of a local arrest of the process of development.

You know that the spinal cord is at one stage an elongated mass of embryonal tissue, having a medial furrow the sides of which ultimately close. You know that the closure may fail to occur in part and that even the closure of the bony canal may not take place, with "spina bifida" as the result. You know—I hope I am not presuming on too much knowledge—that the defect in the bony canal may be slight or even absent and yet it may be definite in the spinal cord. You may also know that there may be defective development within the parts that do coalesce. Embryonal tissue persists where its development into nerve structure fails to occur and often there is an actual cavity in this tissue. Thus we may have cavities where closure has failed to occur with or without adjacent embryonal tissue or we may have cavities where embryonal tissue has broken down. Those are the essential facts of what is called "syringomyelia." There may be a cavity in the middle line usually continuous with the central canal, where should be the posterior medial raphe. This is obviously due to imperfect closure. Or there may be a cavity adjacent to the posterior horn, often one on each side, but unequal in extent. These may be continuous with the central canal on one side or on both.

These lateral fissures in the posterior column are especially important from a pathological point of view. In the process of normal development a portion of embryonal tissue becomes isolated, and remains unchanged, as the gelatinous caput cornu posterioris. The lateral cavities apparently result from an abnormality or imperfection in this process. All the developmental cavities occur in the posterior and central regions of the cord—a fact that is intelligible since this region is the last to attain structural completeness. But such cavities, when dilated, may compress and damage the anterior horns, with muscular atrophy as the result, and even the lateral columns of the cord, causing spastic paralysis of the legs. It has been maintained of late that similar cavities in the spinal cord sometimes result from preceding hæmorrhage, and Schultze[1] has suggested that their origin may be minute hæmorrhages in the grey matter caused by difficult birth. This is a possible cause, although not yet proved. But their precise origin does not concern us now. It is their presence and not their cause with which we have to do.

The developmental nature of these cavities is often suggested by the fact I have mentioned—that they are bordered by undeveloped embryonal tissue. It forms a bounding layer, sometimes encroached on by erosion when liquid has long distended the cavity, sometimes considerably increased by a process of growth. Such residual tissue is prone to increase and its growth is occasionally so considerable as to constitute what is called "gliomatosis"—i.e., a glioma which can be traced to exuberant morbid development of such residual tissue. The word "gliosis" has been applied to it when it does not form a distinct tumour. The normal neuroglia is the remains of this embryonal tissue and gliomata elsewhere have been thought to arise from spots of such residual tissue. It is certain that glioma of the pons—that infiltrating growth which causes great enlargement before it interferes with function—is sometimes connected by tracts of similar tissue with gliosis around a congenital cavity in the cervical spinal cord. That is a pregnant fact. It supports the hypothesis that such tumours may have their origin in residual undeveloped embryonal tissue. It shows us also that these developmental defects may extend up from the cord to the mesencephalon although seldom as actual cavities. We shall presently see the importance of this fact. The symptoms produced by this variable state arise, as I have said, in consequence of the distension of the cavities or the growth of the adjacent tissue. Indeed, some may be due to the absence of the nerve tissue which has not formed. The former generally come on after adult life is reached, but those which are due to simple defect exist from birth. You know the common characteristics of those of the first class, pain, analgesia without anæsthesia, and muscular wasting when the anterior grey substance is damaged. But the symptoms vary in different cases, just as do the cavities, and they are sometimes such as would not suggest their cause. Indeed, such cavities are sometimes found when no symptoms can be heard of and we should therefore be prepared for the fact that the symptoms may often be slight and not characteristic. With unsuggestive symptoms we can hardly suspect this cause unless there is the additional evidence of imperfect development afforded by defective closure of the spinal bones, called "spina bifida occulta." Such imperfect closure of the bony canal, with no external tumour, affords ground for suspecting a like state of imperfection in the spinal cord.

Let me tell you of a case in which this evidence was most suggestive. A man, 35 years of age, had suffered much pain in the arms for eight years. He was a professional musician. Use of the arms in playing relieved the pain for a time but then increased it and induced also a feeling of powerlessness. When I saw him the pain extended down the inner side of each arm and was especially great in the upper part. Objectively nothing abnormal could be found. There were no tenderness and no deficient sensibility of any kind. The only thing discovered was that the right trapezius was a little smaller than the left and presented distinctly less excitability and contraction to both faradism and voltaism in all its parts. The case had baffled the medical men who had seen it; by one it was regarded as myelitis. The key to what I believe was its nature was this fact. At the bottom of the dorsal spine was a peculiar cicatrix, something like the umbilicus but with furrows running from it a short distance to right and left. On this were a few large hairs, a very suspicious indication. The first two lumbar spines could not be felt; they were apparently absent. The scar had been there as long as the patient could remember and he had been told that it was present at birth. If so it seemed to be a case in which an external spina bifida had sloughed away in utero. At any rate it was clearly a case of spina bifida occulta. This involved a high probability, almost certainty, of a defective spinal cord in that region and we know how often this is associated with imperfect development higher up, with a fissure or fissures. The fact made syringomyelia the probable cause of the pain and we could thus understand why no treatment had had any influence on his suffering. If the assumed nature of the case is correct it is an illustration of the various and dubious symptoms which may be produced by such congenital disease.

But it is not with these cases, with trifling symptoms, that I am specially concerned to-day. I wish to direct your attention to some evidence that the existence of these cavities occasionally induces the occurrence of one of the greatest lesions of the spinal cord—hæmorrhage—and determines special, perhaps characteristic, symptoms. I have seen several cases in which the peculiar character of the symptoms can be best understood by ascribing them to a hæmorrhage into such a cavity as we have considered. In some other symptoms made this probable.

First, however, let me give to you a fact which proves that this is not a purely hypothetical pathology. I show you

[1] Zeitschrift für Nervenkrankheiten, 1903. See also A. Westphal, Archiv für Psychiatrie, 1903.

sections from a spinal cord in which such syringal hæmorrhage had occurred. A series of the sections are figured in my "Manual of Diseases of the Nervous System" (Vol. I.). A cavity passed from the position of the central canal backwards and outwards along the left posterior horn and extended from the cervical region to the lower part of the cord. Through part of the dorsal region there was a similar smaller cavity on the right side. That on the left was distended with blood throughout. Hæmorrhage into it had apparently commenced in the cervical region for here the cord was so broken up by the extravasation that only a layer of nerve tissue remained outside the blood. It is probable that the blood had escaped into the cavity in this part and had gravitated downwards. After distending the whole cavity the resistance caused the blood to work its way into the spinal cord at the seat of the primary hæmorrhage and to cause death, partly by the local destruction it wrought and partly by the adjacent inflammation it excited, which ascended the cervical cord until all the muscles for breathing were rendered powerless.

The case occurred here 25 years ago and the notes are imperfect, but they show certain important facts. The patient was a man, 48 years of age, and, as far as could be learned, he had had no preceding symptoms to suggest the existence of these cavities. The onset was acute but not instantaneous. One evening at his work he found his legs "giving way" but managed to walk home. On the next morning he could not stand and in the course of the day he ceased to be able to move the legs. He did not lose all power of contracting the muscles: this, indeed, persisted even to the end of life, nearly five weeks after the onset. Such an acute development of symptoms suggests myelitis and so do the facts that the man was not temperate and had lately been much exposed to cold and wet. But there were other symptoms which indicated more than inflammation. During the first night he had most painful tingling between the knees and the ankles and this was followed by acute pain in the spine and pain behind the knees. Even when admitted to the hospital three weeks later any movement of the body caused pain in the spine "as if a knife were driven down it"—pain that made him shriek, attended with less sharp pain in the legs as if they were being broken across. Such pain does not occur in simple myelitis; it is a characteristic of hæmorrhage. When admitted, three weeks after the onset, he had lessened sensibility to touch over the legs, but that to pain and to heat was increased, a strange condition hardly known in myelitis. There was flaccid palsy with loss of all reflex action. Weakness of the arms developed during the fourth week of the disease and became complete at the shoulders and elbows, while some movement of the fingers continued to the end. With this loss movement of the thorax failed on the left side (that of the syringal hæmorrhage) earlier than on the right, and was followed by paralysis of the diaphragm and difficulty in swallowing. During the last days of life occasional contraction of the sterno-mastoid and extra-respiratory muscles effected some slight breathing, insufficient to maintain life. He died on the thirty-third day from the onset. Almost to the last he could feebly contract most of the muscles of his legs and the muscles of the hands.

I have told you the lesion that was found: extravasation into a cavity beside the left posterior horn, extending from the cervical region downwards. From the chief seat of hæmorrhage in the lower cervical region, where the blood had passed into the substance of the cord, a little had escaped into the membranes. There was no hæmorrhage upwards within the cord, but there were signs of ascending myelitis, and to this secondary inflammation we must ascribe the later fatal ascending paralysis. The precise relation of the symptoms to the morbid process is not easy to discern, but some important points are distinct. One fact which the case illustrates is that the onset of the symptoms of syringal hæmorrhage may be less sudden than those of hæmorrhage usually are. If the blood escapes into a cavity of considerable vertical extent, there is not much erosion of the cord at the seat of the hæmorrhage until the cavity is filled. In this case it is probable that such erosion did not occur until after the hæmorrhage into the cavity had ceased and that a renewal of hæmorrhage was excited by the removal of the patient to the hospital and this invaded the substance of the cord at the place of least resistance. In the second place the effect of such hæmorrhage on the functions of the cord may be less absolute and less consistent than those produced by a simple extravasation into its substance. Thirdly, the case shows how the effect of such a lesion may be increased by secondary myelitis, a slower subsequent process, the danger of which should always be remembered.

I have mentioned that the opinion has been maintained by some authorities who have given much attention to the subject, that many cavities regarded as congenital are not such, but are the result of hæmorrhage. But the case I have related shows what care is necessary in concluding that a circumscribed space, occupied by blood through a considerable extent of the cord, was produced by the extravasation found in it. It might have been thought that in this case the hæmorrhage had forced its way down the cord and thus caused the cavity it occupied, were it not for the definite wall the cavity possessed and were it not for the fissure adjacent to the right posterior horn which extended through part of the dorsal region. It was not continuous with the other and contained no blood. But it was symmetrical and this fact makes their congenital nature highly probable—certain, I believe. Were it not for this second fissure it would have been easy to think that the other was actually produced by the fatal hæmorrhage.

We can understand that hæmorrhage may easily occur into these pre-existing cavities. They are irregular in position and in size and therefore in their relation to vessels. The adjacent gliomatous tissue, the residual embryonal tissue which surrounds them, seems to be readily broken down by the fluid they contain. Adjacent vessels are imperfectly supported and may easily give way. Moreover, the gliomatous growth which occurs is vascular and may be a source of hæmorrhage. In a case recently described by Dr. Alexander Bruce[2] fatal hæmorrhage had occurred into a gliomatous tumour in the cord containing cavities. The tumour was apparently due to local growth of residual tissue, but it was so vascular as to deserve the name "angio-glioma." The extent of the resulting extravasation will depend upon the size of the vessel and, if the blood escapes into a cavity, on the size and vertical extent of this. Lastly, the symptoms produced will vary according to the force with which the blood flows out and to the secondary effect of the hæmorrhage. It is important to remember that hæmorrhage may produce its manifestations by destruction of tissue, by pressure, by slower erosion of the adjacent structures, or also by secondary inflammation, such as always results from a traumatic process. Thus some effects of the condition may not coincide with the primary extravasation, but may be developed as this increases or they may more slowly follow it.

Let me now mention to you the symptoms of two cases which are, I think, only to be explained by assuming that hæmorrhage occurred into such a pre-existing cavity. It is, perhaps, significant that the diagnosis has to be a matter of inference and not of demonstration. It signifies that hæmorrhage confined to such cavities is a less fatal lesion than hæmorrhage into the substance of the cord. As we have just seen from the case I have mentioned the latter may be a secondary effect; hæmorrhage into a cavity may escape beyond it, may work into the substance of the cord, as in the case I have mentioned, with far graver effects than if the extravasation is limited to the cavity, as we may assume it was in the cases which I have to describe. They differ widely in their symptoms, but they agree in two features: in the prominence of sensory loss and in its peculiar seat and limitation, while the first case presents a distribution of motor palsy which it is scarcely possible to explain except on the supposition I have advanced. In considering the symptoms remember that the cavities occur chiefly in the posterior region; hence we can understand the degree of sensory impairment. Remember, also, that a cavity along the posterior cornu, if distended by blood, may compress the lateral column, and if it extends forward to the central region it may compress the anterior horn. Remember, lastly, that such hæmorrhage is very slowly absorbed; ultimately the extravasation lessens in bulk as the disintegrated blood is removed and thus symptoms due to compression and not to destructive laceration may ultimately pass away to an extent that would not be expected from their initial degree and would scarcely be thought possible from the long time during which their severity is maintained. This seems to be the lesson of the first case and if it can be trusted it shows

[2] Scottish Medical and Surgical Journal, August, 1902.

how important it is to recognise the morbid process. It will justify hope when otherwise there would be only despair.

CASE 1.—A member of our own profession, 40 years of age, after a good deal of worry and a hard day's work in very cold weather, felt at night a momentary stab of pain in the right side of the head, followed by a peculiar sense of giddiness, objective vertigo, in the dark. Although he could see nothing he felt as if everything before him were passing from one side to the other. Then he fell asleep. At three o'clock in the morning he woke up to find his left arm powerless. He pinched it and discovered that it was also insensitive. On the next morning it was found to be completely paralysed, without movement and feeling, and so it remained. The condition was just the same when I saw him three months later. Even at first there was no weakness of the face or of the leg. Sudden paralysis of the left arm, preceded by sudden pain in the right side of the head and giddiness, naturally suggested a cerebral lesion, and it was thought by the medical men who saw him that there had been thrombosis of a cortical vessel on the right side of the brain. Such sudden palsy always indicates a vascular lesion, rupture or closure. But there was no heart disease to indicate a source for embolism and cerebral hæmorrhage at 40 years of age without renal disease was most unlikely.

His symptoms, when closely scrutinised, were incompatible with disease of the brain. The points of distinction are instructive. A cerebral lesion never causes *complete* paralysis of the arm without any affection of the face or leg. The structures are in such contiguity that absolute destruction of the centre for the arm or the path for the arm cannot occur without such implication of the adjacent regions for the face and leg as to cause impairment of their function, at any rate for a time. Moreover, in cerebral paralysis of the arm the muscles of the shoulder girdle are never completely paralysed. In this case the affection of these muscles was remarkable. There was complete loss of power of the trapezius, of the sterno-mastoid, and of the pectoralis on the left side. Movement of the head to one side may be at first weakened from brain disease but complete paralysis of the neck muscles never occurs. The sterno-mastoid is weakened on the side opposite to the paralysed arm, not on the same side. This symptom, the peculiar palsy of the neck muscles, proved that the condition was due to a lesion of the spinal cord. The affection of sensibility confirmed this in a striking way. There was complete loss of sensibility in the forearm below the elbow and it was greatly diminished on the outer part of the upper arm and slightly on the inner side. The greater loss extended over the shoulder and the side of the neck almost to the edge of the jaw and behind almost to the occipital bone, everywhere ceasing suddenly. It also passed down over the thorax, behind to the level of the angle of the scapula, and in front almost to the edge of the ribs, everywhere stopping at the middle line. On the face, head, and abdomen sensation was normal. Such a distribution could not result from cerebral disease. From this cause the loss which extended up the neck would certainly have passed on to the face and head and also from the thorax to the abdomen. Thus this also clearly indicated a lesion of the spinal cord. The suggestiveness of the pain in the right side of the head was lessened by the fact that he had been liable to such pain for some years. Transient vertigo has little localising significance and, as we shall see, it could be otherwise explained.

The mystery of a spinal lesion so severe and yet so limited in effect, damaging the left side of the cord so gravely and yet not interfering with the right side, would have been very great but for another symptom, which suggested an explanation for its occurrence and also for its limitation. He had a congenital defect of certain movements of the eyes. They were habitually directed to the left and could not be moved at all to the right of the middle line. Indeed, the left eye was habitually directed outwards, midway to the outer canthus, and could not be brought even up to the mid-position, nor could it be moved outwards beyond its habitual position. Yet it could be moved obliquely downwards and outwards. It could not be moved upwards and with this was associated a little drooping of the lid. The right eye could be moved inwards, upwards, and downwards well, but not outwards at all. Thus there was a congenital absence of movement of both eyes to the right and almost all movement of the left eye. Such a condition, life-long, means a congenital defect of structure in the upper part of the pons on the left side. We know that such defects in the pons may be associated with similar defects in the spinal cord and that in the cord these take the form of syringomyelic cavities or fissures, usually, as I have said, with an adjacent layer of gliomatous tissue and often with separate tracts of such tissue. Thus, the condition of the eyes revealed the probability of a state of the cord such as might have determined both the occurrence and the limitation of the disease, a congenital cavity into which hæmorrhage had occurred. A congenital associated defect in the pons would fully explain the peculiar vertigo, since a sudden hæmorrhage into the cord might cause disturbance of function in that part (closely related to the maintenance of equilibrium), especially if the two conditions were structurally connected. Three months later the loss of sensation had lessened in degree; it still extended over the same regions, although at the margins it passed more gradually into the normal state. The paralysis remained as before; although he could just contract the trapezius and sterno-mastoid he could not contract the pectoralis. All the muscles had wasted, but only in a moderate degree, and, as at first, there was merely a diminution in electrical irritability, just the same to faradism and to voltaism. We can understand this if the anterior grey matter was compressed by the hæmorrhage but not destroyed. It would be so compressed if a cavity beside the posterior horn extended forwards to the neighbourhood of the central canal. The wrist-jerk was increased and there was some excess of knee-jerk, but without weakness of the leg.

I have not seen the patient since, but I have lately learned that after two years the power gradually began to return, and that he has since regained fair power over all parts of the arm. I am glad to say that absolute confirmation of the diagnosis is still lacking, for he is otherwise in excellent health. But there has not been wanting some evidence of the accuracy of the diagnosis. You, perhaps, know that the peculiar joint disease met with in tabes, with enlargement of the ends of the bones, is also met with in syringomyelia. This patient, after the attack of paralysis, had increasing trouble at the hip joint. He believed that at two years of age the joint had been dislocated and the displacement reduced, but such an accident would manifestly not explain grave and increasing trouble after mid-life. Mr. C. J. Symonds took him into Guy's Hospital and operated. He found the head of the femur enlarged to twice its normal size and sawed it off. The edges of the acetabulum were thickened to twice the normal. The patient made a good recovery and has since acquired a most useful new joint. The condition presented so close a resemblance to this special arthropathy as to constitute some corroboration of the diagnosis of syringomyelia, in spite of the absence of any change in sensation in the leg. As I have said, the great cause of tabes (syphilis) could be quite excluded. But another peculiar symptom occurred which may be taken for what it is worth. It is said that "phlebitis"—i.e., venous thrombosis—is more common in the subjects of syringomyelia than in others. Whatever may be the value of the assertion this patient had a clot in some veins of the leg on two occasions, first soon after the attack of paralysis and again after the operation. All things considered, I think we have reason to believe that there occurred in this case hæmorrhage into a syringal cavity and that the evidence is as strong as we can expect to meet with short of pathological proof.

CASE 2.—In the next case also evidence of a similar lesion is such as to amount to an equally high probability. It is that of a man the subject of the hæmorrhagic diathesis. From this the sons of his sisters also suffered, although the sisters themselves escaped—a peculiarity met with in some other congenital diseases, notably in pseudo-hypertrophic paralysis. At the age of 16 years he gave himself a sudden shock by jumping over a box; he felt no immediate effect, but the next morning had lost power and sensation in the legs. He slowly recovered fair power of movement but considerable defect of sensibility remained and was still present when I saw him 20 years after the onset. During the intervening time he had some attacks of transient swelling of the knee-joints, thought to be due to hæmorrhage into them, such as occurs in the subjects of this diathesis. Some defect of power of flexing the ankles was the only motor symptom that continued. He had suffered for years from pains in the legs, intermittent at first, but lately more constant, and he had a troublesome ulcer on one toe which was obstinate and when healed was prone to break out again. But the

loss of sensibility persisted and was unchanged when I saw him. It was complete to both touch and pain, and was remarkable in its distribution. It extended over the lower and inner half of each buttock, down the middle of the back of each thigh, and the outer part of each leg and over the feet, soles and heels, but sparing the inner side, and a small area on the outer side of the left foot had escaped, where there was some hyperæsthesia. With the exception of this hyperæsthetic area the loss was perfectly symmetrical and corresponded precisely to the sensory distribution of the last (fifth) lumbar and all the sacral segment of the spinal cord, the distribution of the fourth lumbar escaping entirely, even in the inner side of the lower legs and feet. Such a correspondence to structural arrangement is most unusual in a lesion of the cord such as inflammation or common hæmorrhage; the lesion and its effects have then a random distribution. The peculiar seat can only be explained by assuming a structural condition which determined the effects of the disease. The only condition we know that will explain it is a congenital cavity or cavities, central and extending back in the medial line, or bilateral and symmetrical in the posterior columns, conditions which, as we have seen, are occasionally met with. It is easy to understand that the hæmorrhagic diathesis might have caused slow bleeding into such a cavity as the result of the concussion and a trifling difference in the extent or position of the cavity on each side might have led to the escape of the hyperæsthetic area on the left foot. From what we know of the bleeding in this constitutional condition it is easy to understand that it should have occurred slowly, from a very trifling source, and that thus its effects only became manifest the morning after the concussion. The case agrees with the last and, indeed, exceeds it in the pronounced and persistent character of the sensory loss. Moreover, it agrees also in the presence of another corroborative condition. Joint changes were present here also. There was thickening of the ends of the bones forming the knee-joint, quite like that of tabetic arthropathy, and there were also chronic changes in the hip-joints. Extension of both the knee- and hip-joints was limited by the arthritic changes.

CASE 3.—I may mention a third case which was possibly of the same nature, although the symptoms were less definite. A girl, aged 21 years, was admitted here with paraplegia of two months' duration. For 18 months the left leg had occasionally given way for a moment, more frequently of late, and slight weakness had developed. This sudden transient "giving way" of the legs is often regarded as a characteristic symptom of hysteria, especially if met with in a girl. It is often, however, the forerunner of organic disease. During the month before the onset of severe palsy the right leg had shared the weakness of the left and there had been troublesome cramp-like pain in the feet. Seven weeks before admission complete paraplegia came on very rapidly. The legs were much weaker one day and the next were completely paralysed in motion and sensation, with much pain in the left leg and for a day or so acute pain in the spine. A pain around the abdomen at the level of the umbilicus was felt for a few hours from time to time. On admission the only power over the muscles of the lower limbs was slight ability to flex the ankles and fair power in all the intrinsic muscles of the feet. The calf muscles were powerless and so were those of the knee- and hip-joints. The knee-jerks were lost and there was no plantar, abdominal, or gluteal reflex. No faradic irritability could be elicited in the glutei, the flexors of the knee, or the calf muscles, but it remained in the extensors of the knee, better on the right side, and it was present also in the peronei and tibialis anticus of the left leg. Voltaism seemed to be lessened in the same way as faradism. The muscles were not much wasted and I may anticipate by saying that during her stay in the hospital (four months) the muscles gradually recovered and all regained good faradic irritability. Their perfect recovery thus makes it improbable that there had been a primary lesion of the anterior horns such as acute poliomyelitis—a fact which gives additional importance to the sensory condition. Sensation to touch was lost over both legs except on the inner side of the right leg above the ankle, but it was absolutely lost on the corresponding region of the left. It was lost on both soles, including the heels, and this loss extended over the outer half of the dorsum of each foot. But this plantar loss on the left foot spared the last phalanges of the toes, while on the right foot only those of the great and little toes had escaped. On the lower legs the loss was not quite absolute below, but became so about three inches from the knee, and this continued up the back of the thighs and over the gluteal region to the crest of the iliac bone, where it was succeeded by a zone of hyperæsthesia extending up to the ribs. It was absolute also on the front of the thighs and lower part of the abdomen, in the hypogastric and inguinal regions, becoming less in the umbilical region, but only normal near the ensiform cartilage. The alteration to pain corresponded in general with that to touch, but on the soles where touch was lost pain was only delayed and so also on the back of the left foot. There was the same increased sensitiveness to pain as to touch in the back above the iliac crest. A month after admission she could perform all movements of the legs, but sensation was almost the same. It afterwards slowly improved, diminishing generally rather than locally. When she left the hospital there was only absolute loss in the hypogastric region and on a spot on the outer side of the right foot and on the inner side of the left leg. The knee-jerks were still absent, the legs could be moved freely and with force in any way as she lay, but it was impossible for her to stand on account of the extreme degree of incoördination.

I think that this case may possibly have been syringal hæmorrhage. It was certainly one of disease causing extensive abolition of the functions of the lower part of the cord and the predominant change in sensation, its persistent character, the enduring loss of the knee-jerk, and the extreme residual incoördination all indicate damage to the posterior columns, apparently interfering with the posterior nerve roots before they reach the grey substance. The degree and general symmetry of this damage suggest hæmorrhage into a cavity or cavities. I have seen some other cases which I think may be of the same nature, but they are not sufficiently pointed in their indication or precise in their record to make it worth while to take up your time with their details. Those which I have mentioned are sufficiently suggestive to warrant the pathological conception of hæmorrhage into pre-existing cavities, "syringal hæmorrhage." As I have said, we may reasonably assume that extravasation may occur into any cavity, irrespective of its origin. The vascularity of adjacent gliomatous tissue, especially when this takes on a process of growth, is often great. It is intelligible that these should sometimes give rise to hæmorrhage and it is therefore not surprising that such growths should sometimes contain the remains of small old extravasations. But little significance can be ascribed to these as regards the original causation of the cavities with which the condition is associated. I refer to this incidentally. My chief object is to call attention to the class of symptoms which seem to indicate hæmorrhage into the cavities. I hope that further similar facts may be ascertained. For actual confirmation we may have to wait. As I have said, purely syringal hæmorrhage seems to be seldom fatal and the fact makes the diagnostic question of great importance. Death seems generally the result of the eroding extension of the extravasation into the substance of the cord or to a later result, the secondary spreading inflammation, which is grave when excited by an irritant lesion such as hæmorrhage.

If any therapeutic lesson is to be obtained from the cases I have described it is the extreme importance of rest, perfect and prolonged, in every case of sudden spinal palsy. Especially is this important when pain suggests a hæmorrhagic cause. If removal to a hospital is necessary the patient should be completely passive. The slightest effort on his part to assist may increase the blood pressure and the hæmorrhage or start afresh that which had ceased. Moreover, not only should everything be avoided that may increase the blood pressure in the spinal cord, but an endeavour should be made to lessen that which gravitation tends to cause. If possible the position should be such that the spine is not the lowest part. There is a common tendency in arranging the treatment of affections of the spinal cord to consider the organ more than the process. In acute affections, at any rate, this is a mistake. It may be said, as a general rule, that in proportion to the acuteness of the disease the elements of treatment should be determined by the nature of the morbid process rather than by the nature of the organ affected. The importance of this is clear if you consider the lesion we have been discussing—hæmorrhage. The organ into which it occurs is of slight importance compared with the nature of the lesion, so far as treatment is

concerned. The object to be kept in view is to promote the cessation of the escape of blood and for this no influence is too slight to be neglected and the effect of gravitation for good or ill is too often overlooked. In spinal hæmorrhage, whenever it can be endured, the prone position of the body should be maintained and if this is impossible the patient must be kept on the side. If hæmorrhage occurs into the leg the limb is not allowed to hang down and if it is even suspected in the spinal cord this should not be the lowest part of the body, as it is when the patient lies on the back. Indeed, I think that in some cases at least the sitting posture with the legs depending would be most likely to promote cessation of the hæmorrhage if only perfect stillness can be maintained. But remember the importance of posture in all acute affections. If you only carry away this lesson you will not have listened in vain, for it is one that you are sure to need in your future work. You may never meet with a case presenting such symptoms as suggest syringal hæmorrhage, but you are sure to meet with cases of acute disease of the spinal cord. You will be able to understand them better and to deal with them more wisely for your study of such cases as I have described. You cannot gain real knowledge of any kind that has not far wider applications than is at first apparent or may not help you when and where you least expect.

An Introductory Address

ON

THE RELATIONSHIP OF THE MILITARY MEDICAL SERVICE TO THE CIVIL PROFESSION.

Delivered at St. Mary's Hospital on Oct. 1st, 1903,

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GENTLEMEN,—In these days of image breaking some old customs possess a curious vitality, and there are few, I think, that illustrate better the saying that "threatened lives live long" than the delivery of introductory addresses at the opening of our medical winter sessions. Every October brings forth its prophecies that lectures, and particularly opening lectures, are doomed, and every succeeding year produces its autumnal crop of introductory addresses; and I have no doubt that if ever Macaulay's New Zealander leaves his vantage ground of London Bridge and ventures over the disrupted wood-pavement as far as Paddington he will find evidence of a recently delivered opening address. The process of evolution has been slow. Originally, when lectures played a more important part in the educational system than they do at present, intending students would attend the initial lecture of a teacher's course in order practically to test his quality. He naturally put forth his best and often his discourse decided the schools to which the student attached himself. I say "schools," as in those days the school of anatomy was not of necessity attached to the hospital for clinical teaching. The opening lecture would then usually set forth the subjects on which the lecturer intended to touch in his subsequent course; and to this would be added, as time went on and medical politics developed, a few remarks on the lecturer's personal view of some question of the day. However, as a rule, these addresses were almost purely technical and usually repeated themselves, and one cannot but envy the eminent lecturer who, holding a certain chair for nearly 40 years, delivered himself of almost the same address every October. Much has changed since then. Possibly, one of the most obvious changes has been that owing to the multiplicity of medical schools, both metropolitan and provincial, we do not have the opportunity of welcoming so large a number of students at the opening of the educational year as did our predecessors. We read that one October evening in the early "twenties" of the last century Sir Astley Cooper delivered his opening lecture before a class of 400 students; and the chronicler goes on to say: "We never before witnessed so genteel a surgical class; the sight was most pleasing, for they all appeared gentlemen of cultivated manners and good education."[1] Nowadays, the quality goes without saying, but the quantity, alas! is lacking, and he would be a happy dean to-day who could contemplate 400 students facing an introductory lecturer. As time went on and a press appeared, giving publicity to medical matters, the delivery of the same address more than once became a matter of some embarrassment and such subjects were usually chosen as the importance of the science of medicine, its value when compared with other professions, and a general outline of its history, till the shades of Æsculapius, Hippocrates, Galen, Celsus, and a host of others must have suffered agonies of apprehension towards the end of September as to what enormities would be attributed to them on the fatal "first" by some bold and imaginative lecturer. Unfortunately, history makes itself but slowly and will only vary within certain limits, so that, driven from this field, the October orator in his desperation resorted to addresses on medical education or on some abstract subject, leaving to his successors an ever-widening range of choice, till I believe a lecture on the subject of Differential Tariffs would not be out of place for an October address.

The subject on which I have ventured to address you this afternoon is one which I believe to be of some considerable importance to us all here and one which the profession and the country at large will have to face seriously in the immediate future; and, therefore, any remarks tending to rouse discussion on this question and to elicit the opinion of those capable of judging deserve careful consideration, even if the views now expressed do not meet with general approval. My subject is, "The Relationship of the Military Medical Service to the Civil Profession," especially dealing with the organisation of the latter in time of war. The Empire has just passed through a war of a magnitude such as it has not experienced for nearly 50 years and within the last three months some of the lessons of that war have been crystallised in an essentially English manner and delivered to us in blue paper covers the result of the labours of a learned commission. There is much food for reflection in these bulky volumes and there is much that especially concerns us as members of the medical profession. Without touching a host of details on which there is much to say and which will doubtless lead to controversy in the future, the salient fact remains that we were not prepared in times of peace in the matter of military medical *personnel* and equipment for a war of the magnitude of that in South Africa, nor do I think that in the present temper of the nation we should be very much better prepared were the same to occur in the near future. As a Secretary of State wrote as far back as 1859, after a similar blue-book had been issued on the subject of the medical arrangements of the Crimean war, "England had always been jealous of standing armies. In their long struggle for freedom the people have found how important it is that they, as well as the Sovereign, should have a hand on the hilt of the Sword of State. But armies once feared by the people on account of their liberties are now feared on account of their pockets. We do not like expenditure because we do not like taxes."[2] That, I think, was the secret of our medical unpreparedness before the Crimea and that was the cause of our want of preparation in 1899; it was not the fault of any department, it was the fault of the nation. Economy was the motif, and, naturally the humanitarian department of the army felt it first and most acutely. Those who had the distribution of the money felt, as one witness expressed it, that everything except the trained fighting man could be purchased in the open market on the day; and that is practically what was done; and, as is usually the case, there followed on a period of injudicious parsimony a perfect saturnalia of lavish extravagance.

The medical arrangements of the campaign did not break down in the sense that some alarmists would have us believe, they were certainly not ideal, there was much that was obviously defective and might have been remedied, but that they stopped short of an absolute debacle was due to the superhuman exertions of the Royal Army Medical Corps, both officers and men, and to the Anglo Saxon adaptability of some thousands of civilian medical men, nurses, and

[1] THE LANCET, Oct. 5th, 1823, p. 3.

[2] The Right Hon. Sidney Herbert, M.P., Westminster Review, January, 1859.

orderlies who were sent out in lavish profusion, but who, it must be remembered, were absolutely uninstructed in what their duties would be and in the special features of their work. However, out of this evil has come a certain measure of good. We have acquired at this fearful cost very many valuable lessons and there are also certain other definite gains. By this time the man in the street is aware that England has been brought into closer union with her colonies; but another union has taken place, and one that touches more nearly our own profession. We civilian medical men who served in South Africa realise that we have at last been brought into a closer contact with our colleagues in the military medical service.

The absence of militarism in England has had a peculiarly isolating effect on the soldier. The average Englishman until lately knew little about the army. He knew nothing of its habits, its traditions, or its history. He scarcely knew one regiment from another unless he happened to have a near relative a soldier. They were generically all soldiers to him and he was singularly incurious as to anything further. This isolation, in a less degree, affected the army medical officer. Once he had obtained his commission he practically disappeared from the sight of his civilian contemporaries. In the old days he lived with his regiment and formed new ties and new friendships, necessarily military. The exigencies of foreign service and distant stations kept him out of touch with his old hospital and he seldom had the companionship of members of his own profession or the opportunities of listening to, or joining in, the technical discussions of a medical society. As a result he felt himself to a certain extent cut off from his civilian colleagues and he practised his profession in his own way, only conferring with his military *confrères*, till there grew up an idea among both civilian and military medical men that in some mysterious way the practice of medicine, surgery, or hygiene in the army differed from that in vogue in the world at large, and that the soldier, both individually and in the aggregate, differed in his metabolism and the products thereof from the civilian. It is not difficult to understand how this isolation originated when we remember our national characteristics and the history of our Army Medical Service.

It would serve no useful purpose to go back further than the regimental surgeon, who is practically coeval with the formation of regiments, though it is interesting to learn that in the reign of Edward II. there was a chirurgeon with every 1000 men, whose pay was 4*d*. a day in addition to which he had the privilege of shaving the soldiers.[3] But the history of the Army Medical Service practically dates from the regimental surgeon; he held the Sovereign's commission which, in the early days, he bought in the same way as did his regimental colleagues and he was as much an integral part of the regiment as was the colonel. Later, somewhere in the early half of the eighteenth century, he received an assistant—the surgeon's mate—but the latter was only a warrant officer and did not receive a commission until 1796 when he was styled an assistant surgeon. The regimental surgeon was responsible apparently to his military superiors for the medical care of his regiment and besides his pay of 6*s*. a day he had an allowance proportioned to the strength of the corps for medicines, hire of hospitals, and the medical expenses of detachments and recruiting parties. On expeditions and elsewhere groups of regiments apparently formed hospitals which were under the administration of the regimental surgeons; that these hospitals were sometimes very effective is instanced by a report on the hospitals established in the Low Countries in 1748 for the troops under the Duke of Cumberland. These hospitals were said to be a model of medical administration. "The patients had separate and clean beds, frequent changes of linen, and were attended by well trained female nurses, while hospital storekeepers and clerks acting under the surgeons furnished every requisite with promptness and regularity."[4] A lengthy correspondence took place between the Duke of Cumberland and the home authorities with reference to the expenditure incurred in maintaining this establishment and the official mind had certainly not then grasped the fact that the nation had incurred a certain responsibility towards the sick and wounded soldier.

These apparently effective arrangements are in marked contrast with those of the ill-fated Walcheren expedition over 60 years afterwards when in less than eight weeks, within 100 miles of England, out of 40,000 men 7000 died from fever and over 14,000 were wrecked in health for the remainder of their lives. Although the medical arrangements of this expedition were of the crudest description and totally inadequate the responsibility of this enormous mortality rests rather with those answerable for the strategy than with those on whom the medical arrangements devolved. A well-known stanza aptly summarises the history of the whole campaign:—

> "The Earl of Chatham, with his sword half drawn,
> Stood waiting for Sir Richard Strachan;
> Sir Richard, longing to be at 'em,
> Stood waiting for the Earl of Chatham."

The earliest trace of a distinct administrative organisation is said to date from 1756, when Lord Barrington, as Secretary for War, was directed to establish a hospital board for the administration of the medical service of the army, then intended to take the field, "in order that under its direction this part of the military service (including medicines, hospital stores, and other requisite provision for the sick) might be carried into execution with ability, regularity, and despatch."[5] Mark you! "with ability, regularity, and despatch"; this was the mandate 150 years ago.

It was by a member of this board that John Hunter was appointed in 1760 as a staff-surgeon to the expedition to Belleisle and again in Portugal in 1763. In 1790 he succeeded Mr. Adair as surgeon-general and inspector-general of regimental infirmaries. Later, a physician-general was appointed and the inspector-general of regimental infirmaries was made a separate office. There were thus established a dual system and a dual control, the hospital board under the surgeon-general being responsible for the appointment of staff-surgeons and physicians and hospital mates to the army and also for the proper equipment and maintenance of what were known as general hospitals, while, to a certain extent, independent of this control, was the system of regimental surgeons and regimental hospitals. That this gave rise to acrimonious disputes chiefly as to the bestowal of patronage one has only to read the correspondence of the time to ascertain. By a Royal Warrant, dated 1798, the surgeon-general's duties were extended and comprised the election of all staff-surgeons, regimental surgeons, and assistants, and the formation of the medical staff of every expedition which left the country. At the same time the board was dissolved and the three officers comprising it acted separately, each having distinct duties and patronage assigned to him and each being held responsible for his own acts. A Mr. Thomas Keates, a surgeon at St. George's Hospital, succeeded John Hunter as surgeon-general and his conduct during his tenure of office was somewhat severely animadverted upon by a Commission of Military Inquiry held in 1807. This inquiry and the really very able defence of Mr. Keates, published under the title of "Observations on the Fifth Report of the Commissioners of Military Inquiry," 1809, is a most valuable source of information to anyone who is interested in the military medical history of this period. A most interesting personage, whose existence is brought into considerable prominence by this commission, is a gentleman styled the apothecary-general who, though not a medical man, held a Royal patent to supply the army with drugs and instruments. His emoluments were 10*s*. a day and he also claimed the right to make a legitimate profit on the goods supplied. The commission estimated this profit at something between 30 and 40 per cent. on the capital invested, but the apothecary-general's estimate was the more modest one of 13 or 14 per cent.; in either case, when we consider that his bills amounted to between £60,000 and £70,000 per year the office certainly appears to have possessed very solid advantages. In 1810, probably as the result of the findings of this commission, the posts of surgeon-general and physician-general were abolished and a director-general of hospitals was appointed, with two principal inspectors of hospitals to assist him, and with a few unimportant changes this arrangement lasted until the time of the Crimean War.

It will thus be seen that in the earlier history of the Army Medical Service the highest administrative posts were given to civilians and that the regimental surgeons' chances of promotion were few and precarious. Sweeping changes were made in 1858 as a result of a commission, of which Mr. Sidney Herbert, afterwards Secretary of State for War, was a member. With the more recent changes, again the result of the report of a Royal Commission, you are probably

[3] Fonblanque: The Administration and Organisation of the British Army, p. 32.

[4] Fonblanque, p. 28.

[5] Clode's Military Forces of the Crown, vol. ii., p. 483.

all familiar. The status and pay of the Royal Army Medical Corps officer have been improved, opportunities for study-leave are to be granted, and, what is of even greater importance, in the earlier stages of their career officers may be seconded to hold posts in civil hospitals. It is to advances in this direction that we must look in the future for improvement in the Army Medical Service and it will be by these means that the civil and military branches of our profession will be brought into closer union. But the establishment is still too small, even in peace, and in war, I am told, it would require the addition of about 500 medical officers before three army corps could take the field with their proper medical *personnel*. It is obvious that no Chancellor of the Exchequer would ever agree to such an increase except in a national emergency, nor is there necessity for such an establishment except to meet the requirements of a great campaign.

"The true lesson of the war, in our opinion, is that no military system will be satisfactory which does not contain powers of expansion outside the limit of the regular forces of the Crown, whatever that limit may be."[6] These words of the commissioners, intended to cover the whole military system, apply with peculiar force to its medical service. Unlike any other branch of the service the medical department possesses a reserve for war of *personnel* already trained in every professional requirement. There was, I believe, never any real difficulty in obtaining civil medical aid during the late war. 1065 civilian surgeons were sent out by the War Office and this does not include numbers locally engaged in South Africa or the staffs of the various civil hospitals and the excellent medical units sent with the colonial contingents, constituting a reserve considerably in excess of the regular medical service, and though as a rule thoroughly efficient in the professional part of their work still untrained as regards that amount of administrative detail which is bound to fall to the lot of a medical officer with an army in the field. The result was that in a great number of instances there was a division of labour, the purely professional work falling to the civilian, while on the regular officer devolved the drudgery of administration. In the future I understand that much of the administrative detail will be rendered less cumbersome, and more, I trust, will be handed over to some other than a Royal Army Medical Corps officer; but of what is left, though of necessity in the higher ranks it must remain with the regular officer, in the lower it should, I think, be more evenly distributed between the active and reserve members of the service. This should be done, if for no other reason, in order to obviate the comparisons between members of the same profession that were freely made by laymen in South Africa.

The feature of the late war was improvisation. We have it on the authority of the commission that this ailment affected the strategy, the organisation, and the equipment throughout the whole service, while it was obvious to everyone interested that this was the main obstacle to perfect success of what I may term the mobilisation of the medical reserves. Almost any system of organisation, had it existed in 1899, would have produced a body of civilians selected with more judgment than could possibly be exercised in the wild rush that took place at the commencement of the campaign. Almost any system would have secured men who would have been to a certain extent cognisant of what was required of them beyond their purely technical work and who, in many cases possibly, would have known something of those with whom they were destined to serve, with the result that a fewer number would have been required and so considerable expense saved to the State; while the work of the remainder would have been more even, more effective, and would have been performed more in harmony with the traditions of their colleagues in the regular service. It thus becomes almost a duty of anyone who by some chance has had opportunities of studying this matter to assist in formulating a scheme that would tend to prevent the recurrence of the unpreparedness that existed in 1899. This must be my excuse for bringing the matter before you this afternoon. In the search for such a scheme of organisation one naturally turns to the custom of other nations. There is a prevailing belief that every able-bodied German has in his possession a card on which are inscribed his exact orders with regard to rendezvous and equipment in the event of mobilisation. Whether this be so or not the initial difficulty in comparing the military institutions of continental nations with those of England is the system of universal service. On the continent there is not that distinction between the military and civilian branches of the profession which exists here. Practically every civilian medical man has once been in the army and would merely revert to his former position in the event of war, while in times of peace both work side by side in the large state hospitals. In Russia a large part of the civilian practice is in the hands of the military medical officers and their military hospitals would appear to play almost the same rôle that our large voluntary hospitals do in this country. Any proposed scheme, therefore, must be elaborated with special reference to the peculiarities of our voluntary system of military service and must also keep in view the fact that the civilian in England is absolutely unacquainted with military organisation and even the minimal amount of administrative detail that is essential in the daily routine of military life.

There are, I think, certain main principles which should be observed in formulating any scheme. Firstly, that any organisation of the civil medical profession for war must have as its framework the Royal Army Medical Corps. If the simile did not lend itself to misinterpretation I would like to suggest that the civilians should form the soft parts of a body of which the Royal Army Medical Corps would be the skeleton. It has been suggested that the various medical schools should each organise a medical unit ready to take the field, but I feel convinced that military units organised and administered by civilians entirely are neither economical nor really effective, and without in any way wishing to depreciate the work done by the civilian hospitals in South Africa I cannot but think that in future the care of the sick and wounded would be more economically provided for by one really effective administration than by the irregular efforts of private enterprise, however well-intentioned, and I would suggest, though it is possibly outside the scope of my subject, that the efforts of the charitable should be rather directed towards the provision of such luxuries and comforts or aids to convalescence as a State service could scarcely be expected to provide. In this we could not do better than borrow the German plan of appointing a commissioner whose duty it would be to organise such efforts in order to prevent waste and overlapping. The second principle is that any civilian absorbed into the Royal Army Medical Corps for the purposes of a war should be, as far as possible, indistinguishable from the regular members of the corps. This is not the time to discuss the question of army rank for medical men. We must accept the system as we find it and since the Royal Army Medical Corps officer has rank, so must the reservist, if we wish to avoid some of the anomalies of the late campaign. Thirdly, in a profession such as ours, in which the environment of the individual—especially of the young individual—is constantly changing, we ought not to extend the period of liability for service for longer than a year at a time. This principle of an annual register I consider very important. Fourthly, there must be some graduation of the civilians selected. In the late war there were only two grades—consultants and civil surgeons, as they were called. There were nine of the former and, as I have said, over 1000 of the latter. In the last class were all degrees of excellence and the reverse—the brilliant student and, possibly from the same school, his friend the chronic; the youth just qualified; and men, some of whom had from 10 to 15 years' experience behind them. All were equal, all were asked to perform similar tasks, and there was seldom any selection exercised of men for work for which they appeared especially adapted. It is wonderful that such a want of system should have obtained even a semblance of success. This graduation should, I think, be based as far as possible on professional standing and attainments. Lastly, it is important that each medical reserve officer, as we may call him, should know, within reasonable limits, the unit to which he would be attached on mobilisation. He would then have some idea of the circumstances in which he would serve; and in many cases, as I shall show later, he would have had some opportunity of forming the acquaintance of those with whom, in the event of a campaign, he would be associated. The system of army corps lends itself particularly well to this arrangement and there seems no reason why each reserve officer should not be attached to a certain army corps, and in many cases to a particular unit, and not be merely one of a list of names at the War Office for general service.

[6] Report of the Royal Commission on the War in South Africa, 1903, p. 83.

These, then, are the main principles. 1. Organisation with the Royal Army Medical Corps as a framework. 2. For the medical reserve officer temporary rank equivalent to that of the regular Royal Army Medical Corps officer. 3. An annual register. 4. Graduation according to professional standing. 5. Appointment to definite army corps and if possible to units.

Three grades of professional standing suggest themselves. *A.* The class to which the civil surgeons in the late war mainly belonged, that is to say, men within the first two or three years of their qualification. In this case preference as far as possible would be given to those who had held resident appointments in any hospital, and of these between 300 and 400 would be required for three army corps, though the actual number called out in any campaign would naturally depend on its nature and duration. *B.* Members of the junior honorary staff, either medical or surgical, of the metropolitan and provincial hospitals. Certainly in another war we should have to realise the importance of the trained physician. In South Africa we had far too few, but in the stationary and base hospitals a few more men of the class to which the assistant physicians of our London and provincial hospitals belong would have been of the greatest value. With regard to his colleague, the assistant surgeon, his place would be in what in foreign armies are termed the field ambulances. In these days of specialism, however much we may regret the fact, it would appear difficult for a man to become a skilled operator unless he has devoted a considerable proportion of his time to the practice of surgery to the partial exclusion of other branches of his work. Professor A. Ogston, in his evidence before the commission, very clearly brings out this point. "Our operations nowadays," he says, "are pieces of very high art, which a man acquires by daily training. He comes to use his fingers like a conjuror uses his and does things with his hands that have become a habit with him to do, but which at first are a little difficult and require technical skill. If a man has not that daily practice he may know the theory most perfectly, he may be a most able and intelligent man, and yet he will not do such good technical work as the perhaps less able man who has had this practice."[†] The exigencies of general practice and the varied nature of the Royal Army Medical Corps officers' work prevent many men from acquiring this skill; but there are in the Royal Army Medical Corps skilled operators who have had opportunities of extensive practice in such big hospitals as Woolwich and Netley and in some of the larger stations of India. It is to supplement, and not to supersede, men like these that I would call up Class "B." Class C would consist of a few of the heads of the profession, both medical and surgical, and with them I would include at least one eminent pathologist. These gentlemen would be attached to the large base hospitals as presenting to them the greatest spheres of usefulness and they would also be present for general advisory purposes.

The experience of the South African war has taught us that there is little difficulty in procuring men during a campaign and I think, therefore, that a comparatively small inducement would keep the register of each class full during times of peace, while the justification of the extra expenditure involved would be the enormous saving of money effected by instituting an organised plan for a hasty improvisation at the outset of a war. Bearing this in mind, I would suggest the following details.

Class A.—During their year of service in the medical reserve, the members of this class would undergo a month's training, if possible, in the field. For this they would receive £1 per day. In the event of mobilisation each would be attached to a unit in a certain army corps, with the pay, allowances, and temporary rank of a lieutenant of the Royal Army Medical Corps. In the event of their re-enlisting for a third period of service they would on mobilisation receive the pay and rank of a captain of the Royal Army Medical Corps. I do not think that we could expect to keep this class on the register for more than four or five years from qualification, as they would then have settled down into practices which it would be difficult for them to leave.

Class B.—It is with this class that the greatest difficulty arises, as they have all fixed positions and responsibilities from which it is difficult for them to escape for any lengthy period. However, recent experience has shown us that in a national crisis either a feeling of patriotism or a spirit of adventure took many such to South Africa, while institutions like our hospitals exhibited considerable public spirit in keeping their appointments open for them during their absence. About 50 of these would be required for three army corps, with their equivalent base hospitals and lines of communication; and as this number would be distributed over England, Ireland, and Scotland, it could not be said to deplete the staff of any one hospital. A small retaining fee would have to be paid to the members of this class and, bearing in mind how occupied is their time, I would make the question of training optional. In many instances members of Class B would already have received training in Class A. On mobilisation each would proceed to a definite unit, with the style of a major of the Royal Army Medical Corps and with the pay and allowances of the senior members of that rank. The period of liability to service would again be a yearly one, but as an inducement to re-enlistment and to training I would suggest that, after three periods of enlistment with training, the officer would, on mobilisation, take the rank and pay of a lieutenant-colonel.

Class C.—For this class no adequate recompense could be made during times of peace for a lien on their services. But it would necessarily be a limited class and would, I think, be considered a position of some honour. In the event of mobilisation each would take the pay and rank of a surgeon-general. I have said nothing of the Royal Army Medical Corps Militia and Volunteers, as I consider these belong to their own services and would probably themselves require a system of expansion such as I have outlined for the regular army. In the event of militia or volunteers proceeding abroad for active service they would take their own regimental medical officers and bearer companies, but would probably rely on the regular service for the remainder of their medical requirements. The question of a medical service for home defence would be, no doubt, simplified by the fact that there would be in the event of invasion compulsory service for all of us.

Gentlemen, such is the rough outline of a scheme for organisation of the civil medical profession in time of war. I feel that it possesses many imperfections, but as a foundation on which some workable scheme might be based I believe it to be sound. I do not flatter myself that it is not open to criticism. I can hear the cynic ask, "Why pay every year for what we can obtain for very little more when the occasion arises with always the possibility that such an occasion may never arise?" This has ever been the attitude of Englishmen and that it has been a false economy one has only to read the reports of Royal Commissions from their earliest inception to learn. And, gentlemen, I believe I have your sympathy when I say that it is not merely a question of economy and that at least we owe it to our sick and wounded countrymen that the medical service in time of war should be carefully organised and as effective as it is possible to render it.

Gentlemen, it is my pleasing duty this afternoon to offer a hearty welcome to those of you to whom this is the opening session of your professional career. I would that my welcome embraced a larger number. It is said that an old surgeon, remarkable for his bluntness of speech as for his eminence as a teacher, exclaimed one 1st of October on facing his crowded class, "Egad! What will become of you all?" I cannot but think that if the old gentleman were to appear now at the opening of the winter session of any of our medical schools his exclamation would be, "What has become of you all?" But the situation has, at least, this consolation for you, that you are not joining an overcrowded profession. It is not, however, only into the ranks of our profession that I welcome you to-day; it is more particularly to this medical school of St. Mary's Hospital. The selection of a medical school is a serious event in the life of a young man, but I know I have the concurrence of all in this room when I say that yours has been a wise choice. I have yet to meet the St. Mary's man who regrets the selection of his *alma mater* and I sincerely trust that he will not be found among you newcomers to-day. It would, I believe, be breaking absolutely with the traditions of the past if I did not on this occasion tender you some advice; though I feel that this would come more appropriately from one of my older colleagues. Possibly, however, the experience of one who has but lately traversed the path you are now approaching may have a value of its own. My advice to you is: Learn to be

[†] Royal Commission on War in South Africa, Minutes of Evidence, vol. i., p. 476.

practical. Learn to do things, rather than how to do them. Many epigrams have been levelled at what is popularly known as the practical man: "He is one who practises the errors of his predecessors"; or, as I have heard it wittily said in this room, "The practical man is one who does only things for which he doesn't know the reason." To this, I suppose, the natural corollary is: "That the theoretical man is one who only knows the reasons for things he cannot do." But there is not this opposition between theory and practice. "Each to a certain extent supposes the other. Theory is dependent on practice, and practice must have preceded theory." Hitherto, in the case of most of you, your education has been based on what are known as "the Humanities"—that is, on a study of the writings and actions of bygone men—the best basis of a liberal education. Now you will have an opportunity of studying Nature herself, of acquiring a knowledge of things as opposed to a knowledge of words. See that you do not neglect the opportunity. Every day learn to do something, whether it be to find a nerve or artery in the dissecting-room, to conduct a physiological experiment or a chemical test, or even to dispense a bottle of medicine. Do not be satisfied with a book description as to how it should be done. Learn to do it. In many cases the mechanical process is tedious and would appear to you a waste of time, but let me assure you it is not. You are unconsciously training other faculties hitherto more or less in abeyance. Your knowledge has till now reached you through the eye or the ear as the written or spoken word. You will now be cultivating other channels of perception, as the sense of touch, while the old routes will be opened up to the appreciation of actual natural phenomena in addition to the previously expressed opinions of others. Learn to do things and your previous education and natural curiosity will insist on the reasons for your doing them. Now is your opportunity. We are all always students, but there are seasons in the pursuit of knowledge as in the life of the planet and this is the springtide of your studentship, and it is all too short.

> "Alas! that spring should vanish with the rose:
> That youth's sweet-scented manuscript should close."[1]

See that when you turn the less fragrant pages of advancing middle age you do not, like many of us, have reason to regret lost opportunities of this the springtide of your student life.

Abstracts
OF
INTRODUCTORY ADDRESSES
DELIVERED AT THE
MEDICAL SCHOOLS
AT THE
Opening of the Session 1903-04.

YORKSHIRE COLLEGE, LEEDS.

INTRODUCTORY ADDRESS ON THE MEDICAL CURRICULUM BY E. A. SCHÄFER, F.R.S., LL.D. ABERD., PROFESSOR OF PHYSIOLOGY AT THE UNIVERSITY OF EDINBURGH.

AFTER a few introductory remarks Professor Schäfer went on to say that the object of his address was not so much to place before his audience an ideal at present impossible of attainment as to offer practical suggestions regarding the manner in which a medical curriculum might be planned out in actually existing circumstances. In the first place a university degree in medicine should invariably be a sign of higher attainments than a mere qualification to practise. Medical degrees of the new Leeds University would, he assumed, offer a real distinction and indicate a fair amount of scholarship, but he considered that if as much time were to be devoted to the acquisition of a knowledge of French and German as is given to that of Latin and Greek the result would at least be the acquisition of knowledge which would in nine cases out of ten prove an important advantage in a man's subsequent career. Most emphatically was this the case if that career were to be the profession of medicine. It would, he thought, be even more difficult to obtain a general introduction of the teaching of natural science than of modern languages into secondary schools in the place of a large part of the time now occupied by classical studies. It was appalling to think that many people who passed as highly educated had absolutely no knowledge of any of the sciences except perhaps mathematics. They knew nothing regarding the structure and mechanism of any plant or animal and least of all of the structure and mechanism of their own body. Nature was to them a sealed book and the general fact remained that the ignorance, not of the populace alone, but of the so-called educated classes regarding all matters relating to science was appalling. Professor Schäfer went on to say that as a subject of general education a knowledge of the sciences was an absolutely essential preliminary to the study of medicine and that because such knowledge was not imparted in our schools it had become necessary to incorporate into the medical curriculum, and in so far to burden it with, courses of preliminary science. The rules of the General Medical Council stated that no course of instruction which had not been attended subsequently to registration as a medical student should be permitted to count in fulfilment of the requirements as to science courses necessary for qualification. This regulation was, as they were doubtless aware, being at the present moment defied by the Royal Colleges of Physicians of London and Surgeons of England. These bodies had his entire sympathy in the action which they had taken and the registration of medical students as it at present stood was direct discouragement to the teaching of science in schools. He himself was a strong advocate of the relegation of the teaching of the preliminary sciences of the medical curriculum to the school period but at present this was impossible. He trusted that the new university would do what lay in its power to promote this reform—that is to say, teaching of science in schools.

Anatomy and physiology, especially physiology, could only be understood by those who had previously acquired a knowledge of these preliminary sciences and the knowledge of physics and chemistry required for the study of physiology was not a mere smattering but should be a very accurate knowledge of certain parts and a good general knowledge of the whole. At present the preliminary sciences were supposed to be overtaken in the first year of the medical curriculum and therefore four years more remained. How were these to be apportioned and what was to be the order of study? The subjects to be mastered during these four years were multifarious and might be divided into three groups, the first of which included anatomy and physiology, the second pathology and pharmacology, and the third medicine and surgery. Anatomy and physiology should certainly be mastered before the study of surgery and medicine was entered upon. He doubted whether in any medical school in this country a sufficient amount of time was given to the practical study of physiology and he was convinced that more benefit would be obtained from working almost wholly at physiology unfettered by any other study, except such a cognate subject as anatomy, for an entire year than during two years with the interpolation of other subjects. Professor Schäfer then continued:

Supposing the way to be cleared by the courses of anatomy and physiology having been completed and the examinations in these subjects passed the student is equipped for the study of pathology and pharmacology and may also begin to work at medicine or surgery in the wards. Of these two I would myself give the preference to medicine as fitting in better with the study of pathology and pharmacology. Besides, it is for various reasons undesirable that the work of the pathological laboratory and attendance in the deadhouse should be concomitant with attendance on operations and the dressing of surgical cases. It is, I know, an almost universal practice to take dresserships in surgery before clerkships in medicine, this being, I presume, one of those traditional usages which die hard. But I know of no valid reason for the practice and I believe the sequence pathology, medicine, surgery to be better. The exact arrangement of the other subjects belonging to the final of the curriculum matters less. Some of the special subjects may be taken earlier, others later. The relative importance of these special subjects is a question about which, as about many others connected with the curriculum, there is by no means a consensus of opinion. But I think that most would agree that it is undesirable to expect as much time to be given to the teaching of such subjects as midwifery as to medicine, to pharmacology as to

[1] Rubáiyát of Omar Khayyam, lxxii.

pathology. Materia medica in the strict sense ought not be part of the curriculum. If a man intends to be a chemist as well as a medical practitioner, he should hold the pharmaceutical diploma. A knowledge of the raw materials of pharmacy is of no value to the student. As a rule it is crammed up for examination and speedily forgotten. But a scientific acquaintance with the action of drugs under both normal and abnormal conditions is quite another story and pharmacology must in future have its due position in the medical curriculum and may very conveniently follow physiology of which it is in a sense an extension. As with all other practical subjects, the teaching in pharmacology should be largely of a practical nature. Lectures upon practical subjects are of much less value than practical work in a laboratory: they at least can be replaced by reading; that cannot. It is true that here and there one meets with a lecturer who has the faculty of imparting information in a manner which makes it stick in the brains of his hearers and here and there with a student who can retain more of a subject from the hearing of a lecture than from the reading of the same subject in a text-book. But these cases are rare. More sound knowledge of almost any scientific subject can be obtained within a limited time—and the time devoted to medical studies is very limited—by properly directed reading, accompanied and illustrated by thorough practical work and numerous demonstrations, than from any course of lectures however long. Fortunately the tendency of the present day is to encourage the development of the practical side of teaching. But it is often forgotten in doing so that unless time is found for the practical courses by cutting down the number of lectures the hours of work become unduly prolonged. The number 100 for a course of lectures seems to be a sort of fetish in many universities, as if there were a special virtue in that number or some multiple of it. In these days of good text-books lectures have largely lost the importance they formerly had. Yet we find the newest university, that of Birmingham, the medical curriculum of which is planned in many respects on excellent lines, requiring two attendances on complete courses of lectures on anatomy, medicine, and surgery—no less than 600 lectures on these subjects alone! This, gentlemen, is one of the failings which I would have you avoid.

Let us briefly consider the order and place of the examinations. Examinations are necessary evils; it is not possible, I believe, to devise any means of testing the knowledge of candidates for a medical degree which is to confer a diploma to practise to which far more important objections could not be urged. Nor can the same objection be taken to practical as to written examinations. A sound practical knowledge cannot be crammed: it must be acquired by actual experience. But in most subjects a practical examination is insufficient, because it is rarely possible to cover enough ground in the available time. Nevertheless, the practical side of the examination should be made to preponderate, for it is the best test of real knowledge. Account may also be taken, as is done in the Birmingham University, of the manner in which the work of the practical courses—including, of course, the clinical courses—has been performed. With this combination a fair estimate of the capabilities of the student could in all probability easily be arrived at.

To understand the existing examination system the manner of its development must be borne in mind. In the beginning certain persons or collections of persons (corporations and universities) were privileged to ascertain the qualifications of those who desired to practise medicine. The candidates were not required to submit evidence of having passed through any particular course of study but were expected to satisfy those to whom the above privilege had been accorded or ultimately their nominees—whom we should now call the examiners—that they possessed an adequate acquaintance with medicine, surgery, and the preparation and action of drugs. The candidate was always apprenticed to some practitioner—himself a graduate or licentiate of one of the corporations—who gave the necessary instruction, which might be, and ultimately usually was, supplemented by attendance at a private school of anatomy as well as in the wards of a hospital. There was for a long time but one examination, all the subjects examined on being taken at one sitting. You will find an amusing account of such an examination, evidently taken from the life, in "Roderick Random." Precise knowledge of detail was not expected, or did not exist, and the effort of memory needed to recall the various subjects of the examination would not therefore be great. But as knowledge of things medical became more extensive, and especially after it had begun to be recognised that a regular sequence of instruction was necessary, more defined courses of lectures began to be prescribed, and it was found convenient to subdivide the subjects of examination, and to hold this in two parts at definite intervals; anatomy, with a little physiology, being the main subject of the first part, and medicine, surgery, and midwifery those of the second. It is along these lines that the evolution of medical examinations has proceeded. There is a constant tendency to subdivide, and in subdividing to get past the earlier subjects of the curriculum before proceeding to the later ones. It is now usual in many universities to examine first of all in the preliminary sciences of chemistry, physics, and biology—the last again being often taken separately; secondly, in anatomy and physiology, with materia medica thrown in; thirdly, in pathology; and lastly, in medicine, surgery, and midwifery.

Along the same lines it appears to me the evolution of the examination system will continue; indeed, I see no sufficient reason why the process of subdivision should be confined to groups. If a student has attended the prescribed courses upon any subject, why should he not be allowed to present himself for examination in that subject? There is, I know, an impression in some minds that the taking of subjects in this way has a tendency to cheapen the degree. That it will tend to render a degree easier of attainment I am prepared to concede and to my mind that is a very strong argument in favour of the adoption of the plan. But that it will tend to lower the standard of knowledge required for the degree I altogether deny; on the contrary, it will raise that standard, for a student would certainly be better able to master one subject at a time and the standard of examination in each subject might easily be higher than with the group system. Even under this system there has grown up a tendency in many quarters towards disintegration of the groups. Thus in the University of Edinburgh and in other universities which might be named, although the subjects which are grouped together under the headings of first, second, third, and final examinations are supposed to be taken together, a large amount of latitude is permitted with regard both to the deferring of certain subjects of a group and to the acceptance of a subject in which a sufficient standard is judged to have been attained, even when the pass standard has not been reached in other subjects for which the student presents himself at the same time for examination. Thus for the so-called second professional examination, the subjects of which are anatomy, physiology, and materia medica, a student may not only defer presenting himself in materia medica, but may be credited with a pass in only one of the other two subjects of the examination—may, that is to say, pass in anatomy alone or in physiology alone. It would, I think, be better to take a step further and to permit the student to present himself in the one subject only. This, indeed, he sometimes does in an irregular way—riding for a fall in anatomy, for example, in order to get through his examination in physiology, but he thereby incurs the stigma of having failed in the subject which he had not really prepared for and which he had no idea of passing.

But it might be argued that in many cases two or more subjects are so interdependent that from the educational point of view it would be a bad arrangement to allow them to be taken independently. This argument applies more strongly to anatomy and physiology than to any other of the subjects in the curriculum. Physiology, at any rate, cannot be properly studied without a previous knowledge of anatomy. This anatomy need not, however, necessarily be human anatomy, for the previous study of comparative anatomy is all that need be required for the understanding of physiology—which is, in fact, very largely comparative physiology.

If the subjects of the curriculum were directed to be taken in regular sequence, the principle being as much as possible preserved that every subject is disposed of—as regards both study and examination—before the next subjects are attempted, I venture to think that a much more thorough knowledge of each subject would be attained with far less strain on the mind of the student. Above all there should be no long interval of time between attendance on the courses of study and examination in a subject. The examinations should come whilst the student is fresh from study, for it is impossible to keep up indefinitely the details which are demanded in examinations,

and the deferring of the examination often leads to neglect of work during the course of study, followed by a feverish attempt to cram up the subjects during the few weeks before the examination. We have experience of this in Edinburgh where the students take out their courses of physiology and practical physiology—including histology—during the second year but are not permitted to present themselves for examination before the end of their third winter; that is to say, they may be ready in all respects by the end of the second summer but must wait another nine months before they can be examined in the subject. This is unfair on the student and it operates detrimentally upon his work. For human nature being what it is, it is improbable that a man will devote himself with the same earnestness to the study of a subject which he will not be examined upon for nearly two years as he would were the examination to come at the end of the courses he is attending. It is a distinct hardship that students who may have completed their courses either in anatomy or in physiology by the end of the second annus medicus are prevented from presenting themselves for examination in either of these subjects for nearly a year. I put this before you as one of the examples which should *not* be followed in framing the curriculum for your university.

An important principle to be kept in mind in settling the periods of examination is so to arrange matters that there shall be no year, and if possible no term, of study without its corresponding examination or examinations. For, as has just been pointed out, do what you will to urge the necessity of work, many students will not work except with a view to the immediate exigencies of an examination. If the examinations for each subject are to be taken separately they would necessarily come even more often than at the end of each annus medicus. And if subjects require a second year of study—as with practical anatomy—there should always be an examination at the end of the first year or at the end of the first winter. This may be elementary or it may embrace a part only of the subject, but it will serve to stimulate work during that year and render the student better able to attack the work of the second year. To take again the example with which I am most familiar, that of Edinburgh. The student there during his second year is studying anatomy and physiology, which he cannot be examined in before the end of his third winter, and surgery, for which the examination comes at the end of the fifth year. The result is that a number of students, who have not at that early stage in the curriculum yet acquired a full sense of responsibility, yield to the tendency to procrastination which is inherent in most of us and devote a large part of their energy during the second annus medicus to the recuperation of their physical forces. The result is excellent so far as university athletics is concerned but is much less successful from the academic standpoint. I would strongly urge in the real interest of the student, whose future career does not depend upon his proficiency as an athlete, that this should not be possible. In saying this I would not be understood to imply any discouragement of athletics which in my judgment should play an important part in the amenities of every university. But they are not the most important element and should never be allowed to interfere with the main purpose of a student's career. By all means encourage all those manly games, the pursuit of which has given a characteristically healthy tone to university life in this country, but let this pursuit take its proper place in the curriculum and do not let it at any stage override the pursuit of knowledge.

In conclusion I will in a few words sketch out what I should regard as, in existing circumstances, the best manner in which the subjects of the medical curriculum can be arranged. Supposing that a student enters in October, as most do. In his first winter he would study only chemistry and physics and would present himself for examination in those subjects at the end of the winter. In his first summer he would take a course of biology, including the lower forms of plant life but mainly founded on comparative anatomy. A course of botany strictly so called is, in my judgment, not essential to a scheme of medical education. The examination in biology would immediately follow. The second winter would be occupied by courses of lectures on anatomy and physiology, by courses of practical physiology, and by attendance in the dissecting-room; the second summer by attendance on practical histology, with such expository lectures as might be considered necessary, and by a continuance of dissection. At the end of this summer the student should be allowed to present himself for examination in physiology if he is sufficiently prepared. A certain number will be able to do so, while others may need to defer the subject for six months; if this is done an advanced course may be taken in the following winter. The third winter will be occupied by dissections and anatomical demonstrations and by lectures and practical instruction in pharmacology, which would follow naturally upon the courses of physiology. Those students who have completed their dissection of the body by the end of the first winter term—i.e., by Christmas—might be permitted to present themselves then for examination in anatomy—otherwise they would defer the examination until the end of the second term (Easter). The examination in pharmacology would naturally come at the end of the third winter.

After anatomy and physiology are finished clinical work may be allowed to begin with the holding of a clerkship in one of the medical wards, to be followed by a dressership in the surgical wards. *Such appointments should always be continued during the vacations.* During the third summer a course of pathological anatomy and histology—lectures and practical—would be taken as well as a course of bacteriology and this would also be a suitable time for including the subject of public health—examinations in these subjects coming at the end of that summer. The fourth winter would be occupied by medicine and therapeutics and by general pathology, including practical work in experimental and chemical pathology; the interest in these subjects would be enhanced by the previous attendance in the medical wards and in the post-mortem room. The examination in pathology would come at the end of the fourth winter and certain parts of medicine might now also be taken. The fourth summer session would be occupied by attendance on midwifery and on a separate three months' course of instruction in the special diseases of women and children, to be followed as before by examination in those subjects. Practical midwifery would be attended at any time after the systematic instruction had been taken.

The fifth winter would be devoted to attendance on systematic surgery, surgical anatomy, operative surgery, ophthalmic medicine and surgery, and diseases of the ear, nose, and throat. The use of anæsthetics and instruction in vaccination might also be conveniently taken at this period. The course of systematic surgery would extend over six months but the other courses would each occupy not more than half that time. At the end of this fifth winter would come the examination in surgery. The April vacation and summer of this fifth year would be devoted to attendance at a fever hospital and an asylum, to lectures on mental diseases and on forensic medicine, and at the end would come the examinations in forensic medicine and the final examination in medicine. The curriculum as here planned out can readily be modified to meet the case of instruction in surgery being taken before instruction in medicine, if this—the more usual course—were preferred. In that event a dressership would precede a clerkship, the fourth winter would be devoted to the surgical subjects and to pathology and the whole of the fifth year to medical subjects, the examination in surgery being taken at the end of the fourth winter and all the examinations in medicine at the end of the fifth year.

The student is now equipped with his degree of M.B., B.S., and thereby receives his qualification to practise. In some universities he passes after a certain period of time to take up his M.D. or M.S. without further examination or other test of work or knowledge. In the University of London before its reorganisation a severe examination was demanded before either of these titles was conferred. In the Scottish universities and in the universities of Germany and most foreign universities it has long been the custom to demand the presentation of a thesis upon some subject in medicine or surgery or in one of the related sciences. This is a custom you will do well to follow in this university, for it has the undeniable advantage of promoting research and has in the past been productive of a large amount of original work which, although it may sometimes have been mediocre, has in many cases proved of a high order of merit. As an alternative to the presentation of a thesis the candidate may be allowed to present himself for examination, such examination being either in general medicine or surgery or in some special branch which the candidate may himself select, such as midwifery, gynæcology,

ophthalmic surgery, or public health. In this way encouragement is afforded to specialisation after a general knowledge of medicine and surgery has been acquired. In some of the best American universities specialisation is encouraged even for the work of the pass degree. We are also, of course, familiar in this country with the specialisation which is necessary for the diploma of a dental surgeon. But for those who are to receive a diploma to practise medicine and surgery a thorough groundwork in all branches of these subjects seems requisite, even if they intend to practise in only a limited branch. The time of the ordinary curriculum is fully occupied in furnishing this groundwork; nor do I think that any of the subjects I have enumerated could well be omitted from a general course of medical education which is to confer the diploma to practise.

I will not apologise for having taken up time with these details, for it is only by the plotting out of details that the working of general principles can be illustrated. These principles, however, must not be lost sight of in considering the arrangement of the details and I will therefore again state them in the briefest possible terms: (1) the relegation of some or all of the preliminary scientific subjects to the year or two preceding entry in the medical school: the examination in these subjects should be not only permitted but encouraged before entry; (2) the maintenance of a proper sequence of subjects so that in no case should any subject be begun until those on which it is founded have been mastered; and (3) the breaking up of the examinations and the taking of the examination in each subject as far as possible immediately after the courses of instruction in that subject are completed. I am confident that the carrying out of these principles will greatly lighten the curriculum which in its present form is a grievous burden on the student and that so far from having a tendency to lower the standard of knowledge it will help to raise this standard although rendering the degree more easy to obtain. It is, as you will see, no unattainable ideal which I have set before you but a plan of study and examination which is easily capable of realisation. The medical school in Leeds is for its size one of the best appointed and the hospital with which it is connected is one of the noblest in the kingdom. The opportunity which presents itself of carrying out such a plan may never recur. "There is a tide in the affairs of" institutions as of "men which taken at the flood leads on to fortune" but if left to ebb will leave them stranded in obscurity. Let it be yours to steer the good ship which is intrusted to you free of the shoals of obsolete tradition into the clear channels which have been buoyed by science, along which the tide of progress is now swiftly flowing.

CHARING CROSS HOSPITAL.

OPENING ADDRESS BY SIR CHARLES WYNDHAM.

AFTER a few introductory remarks in which he referred with real humour to the steps which had led him to take upon himself the office of giving an address Sir Charles Wyndham said:—

You will naturally expect me first to congratulate the prize-winners. Pardon me if I do the very opposite—advisedly. For what is the position of these brilliant young gentlemen who have been proclaimed victors in these contests? One I would not accept for worlds. They have given hostages to fortune. They are doomed through life to live up to their present eminence and woe betide them if they are lulled into indolence or tempted to rest on these early laurels. No. They are certainly entitled to our appreciation, but our felicitations are due to those who have contended manfully in this intellectual arena, though for the moment without tangible result. No Capua invites them to inglorious repose. Theirs is the tonic of unsatisfied ambition, not the possible opiate of gorged achievement.

> "Act well your part; therein the honour lies.
> The virtue's in the struggle, not the prize."

Seriously, I tender my congratulations to all of you who have worked well, whether prizes have or have not fallen to your lot. Work is the one thing worthy of honour. It is the one thing that wins the most solid treasure that life has to give—that supreme consciousness of having put forth the best the worker has in him. The divinest artist demands no more than this; the humblest servant maid achieves no less:—

> "Who sweeps a room as for Thy laws
> Makes that and the action fine."

And now in approaching the most difficult part of my undertaking I pause to wonder in what capacity I shall do so. Shall it be in no special character at all beyond that of the mere layman? If so, what advice can a medical student usefully receive from a layman? The only precedent at my disposal is when the medical student consulted Mephistopheles and the suggestions made by that sulphurous layman were characterised by such deplorable immorality that I dare not take him as my example. It is, on the contrary, my humble ambition to make my observations at least respectable if even pre-eminently dull. Or shall I address you as one who formerly had the honour to belong to the profession you are about to enter? I am entitled to do so. My diplomas are in order, therefore I stand before you legally supposed neither quite unlessoned nor unpractised. Indeed, it is competent upon me to operate upon or to prescribe for any one of you who may have the pluck to entrust himself to my tender mercies. Do not all speak at once. But, alas, "a little learning is a dangerous thing," the lessons of those early days have long since been forgotten, and the theatres in which *my* operations are now conducted are not of a surgical character. Theoretically I may belong to you, practically I stand apart. Apart, but not aloof. For the memory of that part in my life which is now the present and will be the future in yours is to me a bond between us that the rapid and ruthless passage of years can never wholly deface. Or shall I deliver myself of my rambling observations in the character of a mere man of the world, with such value as the difference in our ages may attach to them? A man who like myself has, well, escaped from his first youth must presumably have gathered something from his experience which he can impart to others. In short, I am not too young to give you, nor you too old to receive, a few discursive general hints. Gentlemen, my first counsel to you may seem commonplace: most good advice is. I would urge you to put before and above everything else the primary virtue of loyalty to your profession. I do not mean mere sticking to one another. Valuable as this quality is it may mean or may degenerate into nothing better than trade unionism or the slavish bondage of etiquette to the prejudice of weightier matters. I mean loyalty to the great ideals of the profession. You cannot put them too high. You cannot have too exalted a conception of the vast importance, the nobility, I would almost say the sanctity, of your vocation. There is none to surpass it in the purity and unselfishness of its aims, the multitude of points at which it touches life or the intimacy of its relations to the community, the household, and the individual. "Man," said Bacon, "is the minister and interpreter of nature." The medical art is the minister and interpreter of man. Your influence over the lives, thoughts, pursuits, and desires thus laid bare before you will be enormous. You will be conversant with the simple annals of the poor and the inner lives of the great. You will be welcomed as a friend in the cottage and you may stand on the steps of a throne, blessed by the lowly, desired, even sometimes feared, by the mighty. More to Louis XI. than all the remonstrances of his counsellors, the denunciation of his confessor, the relics of the saints, or the leaden images of the Virgin above his brow, was the uplifted finger of his physician. And the interaction of body and mind is such that no one can treat the one without treating the other too. There have been some extremists who have held that all bodily states are pure creations of the mind; others that all mental states are merely products of the physical organism; or, as Condorcet tersely puts it, "Virtue is a gas and poetry a secretion." Each of these extreme theories has long since been discarded and it is now recognised that by processes mysterious in origin but discernible in action mind and body determinate and mould one another, whilst the empire of medicine dominates both for the preservation of the lives and happiness of its subjects. In exact proportion therefore to the vastness and stringency of this empire are the responsibility of its administrators and the need for those essential qualities of watchfulness, tact, sympathy, and discretion. But do not let this seduce you into even the faintest suspicion of misusing the dominion which you will necessarily possess over the lives and interests of those committed to your charge—whose habits, modes of thought, and human weaknesses will be an open book to you. It is because this danger is so insidious that the law in its wisdom has placed the relation of medical man and patient in the same category as those existing between the priest and penitent, the solicitor and client, not because medical men, solicitors, and priests are dishonourable men or undeserving of grateful recognition, but because the mere existence and

intimacy of the relation raise of themselves the presumption of supremacy on the one side and subjection on the other. Do not forget either that you are frequently the repository of private and family confidences, often withheld from the friend or the priest, the husband or the wife, the son or the father, needing on your part the utmost delicacy and discretion. It is sometimes dangerous even to whisper to your nearest and dearest the secrets of the sick room. On the other hand, do not cultivate reticence at the expense of other and equally important qualities. Science demands courage also from its votaries. I do not mean physical courage. It is quite unnecessary to speak of physical courage when addressing a body of young Englishmen entering a profession whose annals blaze with the records of heroism on land and sea, at home and abroad, on the field of battle, in the hospital, the wilderness, and the slum. I mean moral courage. In this age when the smaller vices are multiplying, each with its attendant nemesis of disease, have the courage to call things by their proper names. If a patient courts death or misery by drink, drugs, or vicious life tell him so in the plainest terms. Do not disguise the truth by some euphemistic Greek words ending in "itis"—words which fall weakly on one coward's ears and issue lightly from another coward's lips. To gloss over the vice which causes—nay, is—the disease and thereby to encourage its continuance is high treason to your profession. There are occasions when silence is not golden—cases to which an agreeable bedside manner is less appropriate than a dash of the caustic, sturdy honesty of an Abernethy. These moral requisites of your calling are summed up in the embracing virtue of loyalty—to your profession, to your patients, and to yourselves. No less exacting, however, are the demands made by your vocation upon the intellectual side of your nature. Never was there a time in the history of the healing art when greater alertness and versatility of mind were required by its practitioners to cope with the ever-increasing rapidity of development. Life as it is to-day, when we contrast it even with what it was in the early part of the Victorian era, has become a thousand-fold more complex and it will tax all your energies to keep abreast of this growing complexity. New pursuits, new habits, new vices and their consequences, and new diseases, on the one hand, have provoked new theories, new methods, and new remedies on the other. Each successive invention, whether for utility or amusement—railways, lawn-tennis, cycles, motor-cars, even the fascinating game of bridge, if too fascinating, the growing recourse to opium, chloral, morphia, cocaine, ether, and other deadly poisons—each has carried with it its special ailment and demands its special treatment. Increasing variety of disease demands at your hands increasing resourcefulness. And it will be your own fault if with such armouries and stores as are ready to your hand you are caught by the enemy tripping. At the same time, everything will depend upon yourselves. Material resources will be nothing without the individual brain, lectures and books mere baggage unless properly applied, whilst there is one book of which not this or any other institution has the copyright—the vast volume of human life which lies open to the exploration of any of you. And it is worth every effort on your part. You will have the sympathy and appreciation of everyone to help you. Never has your profession stood higher in man's estimation than now. You have, on the one hand, the most practical Sovereign of the day, our King, faithfully interpreting to you the sentiment of his subjects and, on the other hand, the voice of the nation to sustain you. The large space you occupy in men's minds and hearts is as you see reflected in modern literature and art. The physician has outlived the satire of Molière. To-day the painter, the novelist, and the dramatist vie with each other in doing homage to his character. Remember the sensation caused by the picture which a few years ago adorned the walls of the Academy—the doctor fighting for his patient's life through the long watches of the night and inch by inch disputing the ground with death. As on canvas so in print, and upon the stage the physician and the surgeon are proclaimed the friends of men to be loved for the good they do, not, as used to be, the enemies to be feared for the evil they may do. But do not forget that though you start with the goodwill of men and with vast scientific achievements and discoveries at your back there are still many unsolved problems to stir your ardour. Alexander's lament need not be yours, there are still many worlds for you to conquer. Though you wend your steep triumphal way to the Capitol with many a captive bacillus at your chariot wheel there are many more which still elude your vigilance and do not own your sway. Which of you, I wonder, is destined to win imperishable fame as the discoverer of the definite cure for our national scourge, consumption? Whence will come the living radium to burn out that fell destroyer cancer? Gentlemen, it may not be given to all of you to establish epoch-making discoveries or to write great books or to become fashionable physicians. Harley-street is not long enough to accommodate every one of you, but it is open to all of you to descend into the arena and to contribute your quota to the ceaseless conflict. For many as are the mysteries which the healing art has fathomed of late, they are as nothing beside that vast, bitter, unplumbed ocean of human disease which still ceaselessly throbs and tosses on the rocky bed of pain and moans around you with its many voices.

KING'S COLLEGE HOSPITAL.

INTRODUCTORY ADDRESS ON THE BIOLOGY OF IMPERIAL FEDERATION BY SIR JOHN ALEXANDER COCKBURN, K.C.M.G., M.D. LOND. & ADEL.

THE evolution of the empire is a subject of engrossing solicitude to all British subjects and is of especial interest to a great centre of higher education such as King's College. The world-wide possessions of Great Britain present an unparalleled field of activity for every well-equipped medical student and science itself owes much to the facilities for travel and research afforded by so vast and varied an area. Who shall say what every department of knowledge would have missed if Charles Darwin had been born in an inland country like Switzerland and had not enjoyed the opportunities for investigation into all forms of life in every climate which were thrown in his way in the navy of the greatest sea power? We live in an age of consolidation. Cables and steam have so contracted the earth's surface that the nation, as the unit of power, no longer suffices. All now aim at empire. The rivalry of the future will be, not between nations, but between empires of which nations are the component parts.

Casting a glance over the page of history we witness the steady advance of the Anglo Saxon race in this direction. The heptarchy a thousand years ago was fused, under the first Edward, into the Crown of England. After centuries of struggle the United Kingdom was evolved, but this goal proved to be only the commencement of a still wider course. The Union Jack, the emblem of that consummation, is but the parent of a family of flags which mark the extended sway of King Edward VII. who, true to the traditions of his name, was the first to incorporate in his Royal title "the Britains beyond the Seas." One striking feature of this stupendous imperial growth is that it has been, for the most part, unconscious and has taken place against the will of those who were supposed to be its directing intelligence. As Professor Seeley wrote, "We seem, as it were, to have conquered and peopled half the world in a fit of absence of mind." To the physiologist this unconscious working out of destiny is no strange matter. He knows well that nature is ever chary of intrusting vital operations to human intelligence. Even in our own bodies she is careful to place the control of the organs on which the maintenance of our existence depends beyond the reach of our volition and it is not to be expected she should be less solicitous of the welfare of the race than of the individual, for "so careful of the type she seems, so careless of the single life." Signs are not wanting, however, that the long period of unconscious incubation is now passed. The imperial idea is surging into a corporate consciousness. Henceforth our intelligence must reinforce and elaborate the instinctive operation.

All authorities are now agreed that there is a close analogy, if not identity, between the laws which govern the evolution of living beings and societies. Some even affirm that a preliminary study of biology is necessary for the comprehension of sociology. Undoubtedly, by such a course many phenomena which appear paradoxical to the ordinary observer would be readily explained. The history of Australian federation furnishes an example of such a paradox. The advocacy of some form of union originated even before the process of fission of Queensland and Victoria from the mother colony of New South Wales had taken place. The simultaneous working of these apparently contrary forces of separation and union, however, is no

puzzle to the biologist. For him the veil of nature's mysteries is raised. The laws of life, so full of enigmas to others, are but as his hornbook and primer. To him differentiation and integration appear as the complementary manifestation of the same evolutionary force and he recognises that the union resulting from the coöperation of the differentiated colonies was on a far higher plan of organisation than if previous segmentation had not taken place. Similarly when in the latter half of the nineteenth century statesmen set themselves deliberately to bring about the separation of the colonies it seemed as if the knell of the colonial empire had been tolled, whereas studied apathy and neglect at headquarters proved to be but the necessary conditions to develop strong, self-reliant, mobile, and firmly attached members of the empire. It was merely a step in the devolution and decentralisation necessary to produce the variation of a highly developed organism.

The dictum of Turgot that colonies are like fruits which cling to the tree only till they ripen does not hold except in the case of simple social organisms. The Greeks, whose form of government was limited to a single city, knew no other method of colonisation than by complete separation. The parallel to this is to be found in the unicellular protozoon. In higher and more complex structures subdivision is not attended with separation; the cells, although differentiated, remain attached to one another and perform various but coördinated functions. And here, doubtless, we find the parallel to the colonial empire of Great Britain. The concession of complete powers of self-government and local freedom have created sturdy individualities which are ready to be brought into coöperation and collective strength by the integrating force now so strongly manifested. With regard to this consolidating process all undue haste should be avoided; our motto should be "*Festina lente*." In pathological processes which go from bad to worse it is often necessary to bear in mind the maxim, "When in doubt operate," but in physiological processes where nature usually guarantees the result the opposite is the rule; for example, it is well known that meddlesome midwifery is bad. Imperial federation must be a growth, not a manufacture. "From lower to the higher next not to the top is nature's text." At the same time we must bear in mind that nature herself runs rapidly through stages of evolution which previous experiences have rendered familiar. Australian federation was a gradual growth although eventually the constitution was framed in the space of a few months. It was in reality the result of ages of evolution from the Achæan and other ancient leagues through the modern instances of the United States, Switzerland, Canada, and Germany, just as the embryo presents an epitome of the history of the race, and passes through in a few days stages which thousands of ages in the first instance were required to accomplish.

At one time in our lives we all had tails and gill clefts in our necks, but we did not remain long in that condition. In ascending to imperial federation if we heedfully follow in steps already trodden our progress may be comparatively swift and sure. We know that our union must be on the federal plan; no other is so flexible and firm or so suitable for maintaining a vast territory under that local self government which constitutes the genius of our race and from which is derived our colonising power. Eventually there will be a Pan Britannic Federal Constitution with an Imperial Parliament consisting of a Senate representing the component nations and an assembly with representatives in proportion to the population of each, together with untrammelled trade throughout the whole. But this goal is far distant and none of us may live to see the day. Meanwhile we must so traverse the intervening territory that each step may bring us nearer to it. The colonial conferences of 1887, 1897, and 1902 did much to prepare the way. In future these are to be periodical. Mr. Chamberlain, strong yet ever cautious, prevented many difficulties by consulting the colonies in all questions affecting their interests. An advisory council consisting of representatives in London of the self-governing colonies might with advantage be formed as a stepping-stone to an imperial council. The desire for closer union was never so strong as at present and advantage should be taken of it to extend in every direction mutual interest; this is the soil in which sentiment permanently flourishes, otherwise it is an exotic which a frost may kill. The strange heresy which prevents natural affection from manifesting itself in the channels of trade is rapidly dying out and the way will soon be open for such reciprocity as will eventually lead to intra-Imperial free trade. Common prudence dictates that adequate steps should be taken to secure our supply of daily bread. At present Great Britain depends for nourishment on foreign sources which must be seriously affected or interrupted by a European war or possibly even by market operations. We are in the position of a patient whose supply of nutrient fluid is insufficient for his needs and requires to be sustained by a continuous transfusion of blood from other individuals. In an age of progress every social organism must either advance to a higher stage of organisation or must retrogress. It is true we stand at the parting of the ways but there can be no doubt as to the course that will be pursued. It cannot be that the empire in the recent thrill of realisation attained self-consciousness only to witness its own decay. The divinity which has shaped our ends through so many ages can safely be trusted to guide our steps to the higher life of relationship which has ever been clearly our destiny.

THE MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS BY WILLIAM HERN, M.R.C.S. ENG., L.D.S.

IN welcoming the new students to the Middlesex Hospital Mr. William Hern dwelt on the value of medicine as a calling in that it developed the highest faculties of man and afforded the widest scope for the exercise of courage, perseverance, tact, and human kindness. He referred also to the enhanced facilities now offered by the well-equipped laboratories and class-rooms lately opened at the Middlesex Hospital Medical School for the acquisition of scientific professional knowledge.

One of the great differences between the medical methods of past and present times, Mr. Hern proceeded to point out, was the substitution for the old empiricism of treatment based upon an inquiry into the causes of disease. The modern practitioner must resemble the farmer who knew and betimes destroyed the sources of blight and mildew. From the utilitarian point of view the labours of the patient investigator into the causes of disease far outweighed in value the devotion and self-sacrifice of the unscientific philanthropist and guardian of the sick. The popular tendency was to ignore the causes of ill-health. Had the physician in *Macbeth* complied with the king's request to find the disease of the commonwealth he must have pointed to the unsuspecting king himself. Martyrs to the results of evil habits and the thralls of dental disease seemed to regard their troubles as the thorns that must inevitably spring into being with the rose of life. Their satisfaction in the possession of remedies for a complaint must not blind them to the necessity of doing all they could to render that complaint impossible. To this end the medical man required to impress upon the people the strict observance in everyday life of hygienic principles. Thus alone might the visits of the medical man be rendered few and far between. A sick man's recital of his woes had usually reference to his symptoms only; the medical man's duty was to discover and to treat the underlying cause.

Oral sepsis—i.e., a foul and infectious condition of the mouth cavity—and dental caries or decay were affections of which it was most important to ascertain the origin. The mouth, being open to the air, moist, and warm, and having distributed in it from time to time the débris of food (itself the habitat of minute organisms) served as a most efficient catchment chamber and breeding house for rapidly multiplying disease germs. Following in the steps of Leuwenhoek, a seventeenth century investigator, Galippe, Miller, and others had been able to demonstrate that though some of the micro-organisms of the mouth were harmless to man, others might occur therein which had been identified as associated with maladies the most deadly to human kind. The effect of the mischief-working germs on the gums was to produce inflammation therein which might lead to loss of teeth through suppurative inflammation, to general but minor disturbances of health, or to acute and fatal blood poisoning. That the worst possible results did not commonly follow on prolonged oral sepsis was due probably to the fact that the patient by degrees became to some extent immune to his own poison.

Dental caries, or decay of the teeth, was a disease of all ages of the world's history and most rife among civilised peoples. Nearly 80 per cent. of the children in industrial schools were found in an investigation by the British

Dental Association not long ago to be subjects of it. Of some half-dozen theories which had been advanced to account for dental caries that which might be termed the "chemico-parasitic," attributing the affection to the work of disease germs, was the one now regarded as tenable. The predisposing causes of caries—those which might be said to prepare the soil for the parasitic growths—included abnormalities in the form, structure, and position of the teeth, debilitating illnesses, congenital tendencies, certain occupations, the somewhat obscure influences which came under the head of "civilisation," and last, and mainly, the diet, more especially one consisting largely of vegetable matter and, he might add, milk. But that which constituted the primary, or exciting, causes of caries was the form and situation of the various parts of the teeth, whether such as would retain decomposing and therefore infectious food débris or such as being rounded or continually swept by the tongue and lips did not admit of the lodgment of particles. It followed from this that though the teeth of a robust man did not suffer in the same degree they showed caries in the same positions as in the teeth of the sickliest and most weakly of mortals.

Experiments with sound natural teeth placed in various mixtures had evolved the following facts. Albuminous and fatty matters mixed with saliva and kept warm produced by decomposition an alkaline liquid, non-causative of caries. Starchy and saccharine food similarly treated yielded an acid solution which, like a weak solution of lactic acid, decalcified the teeth and effected the first stage of caries; the second stage was accomplished by the solvent action of micro-organisms provided by the saliva. For the prevention of caries, therefore, the important desiderata were, first and foremost, regular and systematic sweeping of the teeth with tooth brushes stiff enough thoroughly to clear away remnants of food; and, secondly, the use of antiseptic mouth washes. That these measures and the consequence of their neglect had not been brought before the lower orders of society, their children especially, was a reproach to preventive medicine, if not to the State. Thousands of patients yearly attended the hospitals because of ailments directly or indirectly due to unclean mouths, caries, or loss of teeth. A State which could afford to control the drunkard, to provide the poor with free education, and to appoint ophthalmic surgeons to board schools should surely be able to organise some system of gratuitous dental supervision and treatment to supplement the necessarily limited work of the few existing dental hospitals. If it should be impossible to institute State-aided dental dispensaries there might at least be provision for instructing the children of the poor in oral hygiene. The cause no less than the effects of oral sepsis or caries must be constantly within the purview of the medical profession as a whole, and it is only by the coöperation of every member of the healing art in inculcating preventive measures that these can be successfully combated.

Knowledge of the importance of good teeth to the well-being of the body and instruction how best to preserve them should be imparted to all patients, especially the poor and ignorant, and the nurse who attended to the ablution of the body should see even more punctiliously to the cleansing of the teeth. Acquaintance with dental pathology afforded valuable clues to the physician, the surgeon, and the throat, the ear, and the eye specialist in tracing the origin of maladies of the most diverse kinds, and he who by timely warning and advice sought to save his patients from the evil consequences of oral sepsis and dental caries was choosing the better part of medicine—the prevention of disease, which was better than the most brilliant cure.

A NEW HYGROMETER.—The *Engineer* of Oct. 2nd states that an Italian has invented a saturation hygrometer which may be used for determining the tension of aqueous vapour in the air in small spaces, such as instrument cases; a portion of the air to be examined is withdrawn and saturated with aqueous vapour, and the increase of pressure thus caused is noted; knowing the saturation vapour pressure it is possible to deduce the aqueous vapour pressure of the experimental air. The apparatus consists of a bronze receiver fitted with a thermometer; into the receiver passes a glass tube drawn out at the lower end and connected at the upper end with a syringe which serves to force in drops of water. The receiver may be put in communication with the exterior air and carries at the side a graduated tube of 3·2 millimetres diameter containing a column of petroleum 2·5 centimetres long.

A CASE OF

DIABETIC INTRAOCULAR LIPÆMIA, IN WHICH THE BLOOD WAS EXAMINED DURING LIFE.

BY W. HALE WHITE, M.D., F.R.C.P. LOND.,

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(*With Coloured Illustration.*)

IN 1880 Heyl[1] published an account of a case of lipæmia in diabetes, in which the fatty blood was recognised in the retinal vessels by means of the ophthalmoscope. The title of his paper is "Intraocular Lipæmia." Although it is so long since this observation was made yet text-books do not allude to the appearance and even Naunyn[2] does not mention it, hence it seemed to me worth while to record the following case. Owing to the time occupied in preparing the accompanying chromolithograph the publication of this case has not been possible till now, but in a clinical lecture published in 1902[3] I mentioned I had seen intraocular lipæmia, and again when opening the debate on diabetes at the Chelsea Clinical Society in March, 1903.[4] Recently Sir T. R. Fraser[5] recorded a case at the Edinburgh Medico-Chirurgical Society, and in the *Ophthalmoscope*[6] there is an abstract of a case published in Germany by Reis. For this reference[7] I am indebted to Mr. A. W. Ormond. I should not, for my own part, say that lipæmia in diabetes is excessively rare and I know of at least one other patient in Guy's Hospital in whom this condition of the blood was observed in the retinal vessels. I have called the condition "lipæmia," for this word is constantly used in describing the blood when it is of a pale salmon colour. This is most often seen in diabetes, but it has also been described as occurring in alcoholism, phosphorus poisoning, pneumonia, peritonitis, and gout. Of these rarer causes probably alcoholism is the most frequent. Most authors say that under the microscope fat globules may be seen and also very fine granules. In many cases undoubted fat granules are present for they are described as staining with osmic acid and they are so depicted by Saunders and Hamilton.[8] But these authors, like others, also describe "a finely granular precipitate evidently not of an oily nature," and they also speak of the albuminoid precipitate as showing no change with osmic acid. Futchner[9] found that the turbidity of the blood was only in part cleared with ether and many of the granules were not stained black by osmic acid, and he points out that the turbidity is only partially due to fat and suggests that the granules are in part albuminous. Others have suggested that the granules are particles of fat surrounded by an albuminous envelope.

One of the points of interest in the case about to be recorded is that a careful microscopic examination of the blood failed to show any fat globules or anything that stained with osmic acid, and so we learn that this pale, turbid, salmon-coloured blood may contain not only fat globules and a granular precipitate, but this granular precipitate may be all that is observed although the blood is markedly changed. Mr. S. W. Cole kindly analysed in the Physiological Laboratory at Cambridge some of the blood removed by venesection during life. He says: "I find the white substance is insoluble in water and salines, but more or less soluble in alkalies. It seems to be a proteid precipitated out by the presence of a fatty substance, but what the proteid is I was not able to discover. The fatty substance is not true fat but apparently an ester of cholesterine with one of the higher fatty acids, or a mixture of them. I extracted the ester from the precipitated body with alcohol and saponified with alcoholic soda and then extracted the residue with hot chloroform. This on evaporation leaves cholesterine, which gives the usual tests and was also identified by its crystalline

[1] Transactions of the American Ophthalmological Society, 1880, p. 54.
[2] Der Diabetes Mellitus, Nothnagel's Specielle Pathologie und Therapie, Band viii., Theil 6.
[3] Guy's Hospital Gazette, July 19th, 1902.
[4] THE LANCET, March 14th, 1903, p. 714.
[5] Brit. Med. Jour., May 23rd, 1903.
[6] The Ophthalmoscope, August, 1903.
[7] Archiv für Ophthal., March 24th, 1903.
[8] Edinburgh Medical Journal, vol. xxv., 1879, p. 47.
[9] Journal of the American Medical Association, Oct. 21st, 1899.

form. I could not possibly tell, of course, the acid with which it was originally combined." We thus learn that the term "lipæmia" is not strictly correct, for the turbidity is not entirely due to fat globules—indeed, they may be absent when the turbidity is marked and that then, in addition to a precipitated proteid, there is present a substance which, although allied to fats, is not a true fat.

The ophthalmoscopic appearances in my case can be seen in the appended chromolithograph, kindly made by Mr. Arthur W. Head. The arteries and veins, it will be noticed, contain blood of a similar colour, and this colour is a deep cream which in the larger vessels passes into a pale salmon colour, for here there are enough blood corpuscles visibly to modify the cream colour. The vessels appear a little larger than usual; the whole retina is pale. Reference to Heyl's paper will show that this description, which was written before I read his, accords with it. Unfortunately, when the patient was under observation I was unaware of Heyl's paper and consequently of the interesting discussion raised in it as to why the vessels appear large.

Most cases of diabetic lipæmia that have been recorded have been fatal and it has been suggested that the lipæmia is the cause of the coma. That is not now believed and I can testify that it is not so, for I have in many fatal cases of coma failed to find this condition of blood. My case, like Futchner's, shows that as the patient improves the lipæmia disappears; further, it shows that as the lipæmia goes the fundus of the eye becomes healthy-looking. No satisfactory explanation of the lipæmia has been given. Certainly in my case it bore no relation to diet.

The patient, a man, aged 26 years, was admitted under my care into Philip ward, Guy's Hospital, on Feb. 13th, 1902, on account of hunger, thirst, polyuria, weakness, and wasting. The weakness was noticed first about nine months previously. In September, 1901, the thirst appeared and since Oct. 21st of the same year, when he first came to the hospital, he had been treated for diabetes as an out-patient. For a time he did well and gained weight, but latterly he had not kept at all to the diet ordered and he had become drowsy. On admission he was drowsy and felt sleepy. His body was wasted. His breath smelt very sweet and he had a sweet taste in his mouth. He complained of pain in the loins. His tongue was red. The sugar in the urine was 2595 grains in the 24 hours. The total quantity was 178 fluid ounces, the specific gravity being 1040. One part per 1000 of albumin and 770 grains of urea were present. There was a well-marked ferric chloride reaction. Under treatment the sugar finally fell before he went out on May 26th, 1902, to between 1000 and 1500 grains in the 24 hours, the total quantity becoming about 80 fluid ounces. The specific gravity was between 1030 and 1035 and the total daily excretion of urea was between 600 and 900 grains. The ferric chloride reaction was well given during the whole of his stay; the albumin gradually disappeared. Mr. E. H. B. Milsom, the clinical clerk in charge of the case, even after the patient had been in some time, prepared large quantities of crotonic acid from the urine. He found the total ammonia in the urine on March 10th to be 2·565 grammes, both these facts pointing to the presence of a large amount of oxybutyric acid. The patient was treated by restricted diet and after he had been on this for ten days he was allowed two ounces of lævulose a day. He liked this very much. It did not lead to any increase of the sugar in the urine, nor did it appear to make him worse in any way. The transition from ordinary to diabetic diet was made gradually. He was throughout allowed milk and as he was so drowsy on admission he was given three pints of milk a day and to each pint 100 grains of bicarbonate of soda were added. Before this was done he was so drowsy that a fatal issue seemed probable and it was difficult not to believe that the administration of the bicarbonate of soda diminished the drowsiness, for it gradually became less and ultimately quite passed away. He was allowed milk because, as he was semi-comatose, it seemed undesirable that he should have an entirely carbohydrate-free diet.

The main interest of the case lies in the blood. On admission, directly we looked at his eyes we noticed that the retinal arteries and veins both appeared to have in them blood of a pale salmon colour. The retina was pale. As the patient improved the colour in both sets of vessels became more healthy and was quite natural after he had been in for two months. He was fortunately an intelligent man and on Feb. 19th he allowed us to bleed him, only a small quantity of blood being taken. It was very milky and the serum after clotting was milky. Under the microscope many fine granules were seen, but no globules or anything that stained with osmic acid. On March 17th he was again venesected and the blood was sent to Mr. Cole, whose report has been given. The patient's improvement is shown by the following weights: Feb. 26th, 105 pounds; March 2nd, 114 pounds; March 18th, 115 pounds; March 23rd, 118 pounds; March 27th, 120 pounds; April 5th, 123 pounds; April 26th, 126 pounds; May 3rd, 128 pounds. I should add that Mr. A. W. Ormond, the ophthalmic registrar to Guy's Hospital, kindly introduced the case to Mr. Head's notice and hence we are indebted to him for the chromolithograph, and I am also much indebted to Mr. Milsom for his many careful analyses of the urine.

Harley-street, W.

ON THE PROTECTIVE EFFECT ACHIEVED BY ANTITYPHOID INOCULATION AS EXHIBITED IN TWO FURTHER STATISTICAL RECORDS.

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IN the issue of THE LANCET of Sept. 6th, 1902 (p. 651), I gathered together and set forth in a synoptical table all the statistical materials which were available up to that date. In a special supplement appended to the same issue I marshalled the materials for the critical estimation of the value of each of the statistics. I have recently been permitted to publish, through the kindness of Surgeon-General Sir William Taylor, K.C.B., Director-General of the Army Medical Service, two further statistical records received at the War Office since the date of the publication above referred to.

The first refers to the incidence of typhoid fever and the death-rate from the disease in inoculated and uninoculated soldiers in India during the year 1901 (vide Table I). The second relates to the incidence of typhoid fever in the inoculated and uninoculated in Lord Methuen's column at the Modder River, South Africa, from December, 1899, to March, 1900 (vide Table II.).

TABLE I.—*Showing the Incidence of, and Death-rate from, Typhoid Fever in the British Army in India during the Year 1901.*

—	Average strength during the year	Cases of typhoid fever.	Deaths from typhoid fever.	Incidence rate.	Death-rate.
				Per cent.	Per cent.
Uninoculated ...	55,955	744	199	1·33	0·36
Inoculated... ...	4,883	32	3	0·66	0·06

We learn here that antityphoid inoculation reduced the incidence-rate of typhoid fever by half and the death rate by five-sixths. A further point of interest in the table is its testimony to the duration of the protection afforded by antityphoid inoculation. It may be premised in this connexion that the number of inoculated in the table represents a falling off of 1100 from the figures of the previous year, a falling off due to the practical suspension of antityphoid inoculations. It follows that the statistics here in question refer almost exclusively to men inoculated in 1898, 1899, and 1900. So far as they apply to men inoculated in 1900 confirmation is furnished to the statistics of 1900 which showed that the protection conferred by inoculation in 1899 showed no signs of diminishing in 1900. So far as the statistics of 1901 refer to a residue of the 4000 men inoculated by myself in India in 1898–99 they amplify previous statistics to the extent that they suggest that the protective effect of inoculation continues for a minimum of three years.

The second statistical record applies, as already mentioned, to Lord Methuen's column during a limited period of the

South African war. It was furnished by Surgeon-General Townsend, C.B.

TABLE II.—*Showing the Incidence of Typhoid Fever in Lord Methuen's Column at the Modder River, South Africa, from December, 1899, to March, 1900.*

—	Number.	Cases of typhoid fever.	Incidence rate.
Uninoculated	10,981	257	2·3 per cent.
Inoculated	2,535	26	1·0 ,,

It will be noted that Table II. testifies to a diminution of the incidence rate by more than half during the period of observation. It would seem legitimate, in view of the statistics set forth above and of previous statistics, to infer the continuance of a similar y diminished rate of incidence during the whole of these men's service in South Africa. It will be noted also that this table discloses nothing with regard to the case mortality of the inoculated and uninoculated attacked by typhoid fever. This omission is no doubt due to the fact that the sick were transferred to hospitals at the base and passed out of Surgeon-General Townsend's ken. We may probably, in view of statistics in Table I., *supra*, and of those included in my synoptical table, infer that there was here superadded to the diminution in the incidence rate of typhoid fever also a diminution in the death-rate.

Lower Seymour-street, W.

SOME REMARKS ON 50 CASES OF BILHARZIA DISEASE,

WITH SPECIAL REFERENCE TO THE CHARACTERS OF THE WHITE CORPUSCLES FOUND IN THE BLOOD AND URINE

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CAPTAIN, I.M.S.,
AND
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MAJOR, R.A.M.C.

ATTENTION has been drawn by Coles to the presence of an excess of coarse-grained eosinophile leucocytes in the blood of a patient suffering from bilharzia disease. The presence in the Royal Victoria Hospital, Netley, of a large number of cases of this disease in soldiers who had served in South Africa afforded us an opportunity for making further investigations in connexion with this disorder.

Clinical symptoms.—In most of the cases the clinical symptoms were very slight, vague pains in the back being most complained of; only a few of the patients complained of frequent micturition and pain on passing the urine. When blood was passed it was most marked at the end of micturition and nearly all the patients stated that their linen became blood-stained from a drop or so of urine coming away after they had adjusted their dress. None of them complained of any rectal symptoms

Duration of the disease.—The duration of the different cases examined was from nine months to over two years and according to the patients no improvement had taken place since the onset. Many of them had had various drugs administered without the slightest effect.

Incubation period.—But little can be said with regard to the incubation of the disease; of 14 men of the Argyll and Sutherland Highlanders 12 first noticed the disease in January or February, 1901, while at Rustenburg or in that neighbourhood. This regiment had been at Rustenburg since September, 1900, and its movements before that date were in the Eastern Transvaal.

Period of the year at which the disease first appeared.—An analysis of the data with regard to the season at which the first symptoms of the disease appeared shows that the disorder may probably be contracted at every period of the year.

Possible extension of the disease to other countries.—The circumstance that patients who contracted the disease in South Africa have already been invalided to Netley from India, Burmah, and Malta, stations hitherto free from the disease, shows that the ova of the parasite must have been widely disseminated over the globe by soldiers from South Africa, and it may be noted that this is in conformity with the fact that the endemic area of the disease in Africa has been widely extended by the movements of infected soldiers.

Remarks on the differential blood counts.—The films were in each case stained with Leishman's stain. The number of leucocytes counted was in each case at least 300, this number being considered sufficient in view of the large number of cases examined and the grand total of 16,149 leucocytes were counted. The blood of all the patients examined seemed to contain an excess of white cells. With the exception of Case 14 the percentage of coarse-grained eosinophile leucocytes was above the normal limits, the average for the whole series being 16·48 per cent. There were, however, great variations in the different cases, the extremes being Case 2 with 40 per cent. and Case 14 with 1·3 per cent. Of the remaining cases 20 (Nos. 1, 3, 4, 5, 6, 15, 20, 22, 23, 24, 30, 33, 34, 39, 45, 46, 47, 48, 49, and 50) showed a percentage of above 15 and in only two (Nos. 36 and 43) was the percentage below 6. The increase of the eosinophiles seems to have been principally at the expense of the polymorphonuclears. Polymorphonuclear leucocytes were below the average percentage, the average for the series of cases being 44·58 per cent. The general impression was that these leucocytes were distinctly more granular than usual, the granules being both more numerous and of larger size and in some instances almost approached the condition seen in normal guinea-pigs' blood.

The large mononuclear leucocytes were relatively numerous, the average percentage being 12·526. In two cases (Nos. 35 and 42) in which evidences of malaria were found—namely, pigment contained in some of the mononuclears in the former case and both benign and malignant tertian parasites in the other case—the figures were very high, 25 per cent. and 28·4 per cent. respectively; but in ten other cases (Nos. 1, 2, 3, 4, 5, 7, 10, 13, 31, and 39) the percentage was above 15. Many of the mononuclear cells contained a few red-staining granules. Intermediary forms between lymphocytes and large mononuclears were numerous and it was often difficult to know into what category the cell should be placed. Doubtful cells were therefore classed as lymphocytes. Lymphocytes gave an average percentage of 25·76, different cases showing large variations. In only two (Nos. 14 and 43), where the figures were 43·9 per cent. and 42·6 per cent., was there a distinct increase, and in both of these cases the coarse-grained eosinophiles were very much less numerous than usual. Included under the head of basophile were mast cells and their average number (0·503 per cent.) was rather above the average of normal blood. In no case, however, did they reach 2 per cent.

Taking the mononuclear leucocytes as one class and the polymorphonuclears as the other, the average percentages work out at 33·286 per cent. and 61·569 per cent. respectively, this being approximately the proportion found in normal blood.

The urinary sediment.—The urine was in each case centrifuged, one portion of the deposit was examined without staining, another was made into films and lightly stained with Leishman's stain. The number of bilharzia ova varied enormously in different cases and also varied from day to day in the same case, the specimens in which most were found being often comparatively free from both cellular débris and blood. The amount of blood varied enormously—in some cases the urine was bright red, in others nothing was noticeable with the naked eye; many of the cases which contained much blood showed extremely few ova. Bladder epithelium was frequently present.

In all the cases examined the sediment contained many leucocytes which were, as a rule, extremely well preserved; by far the greater number of these were coarse-grained eosinophiles. In some cases no other sort of leucocyte was found after prolonged search and in the cases where they were least numerous this percentage never sank below 50; the other form of leucocyte seen was almost exclusively the polymorphonuclear, lymphocytes and large mononuclears being very uncommon. No explanation could be found for this striking predominance of the eosinophile over the other leucocytes and the only suggestion that can be given is that the irritation arising from the lesion of the bladder causes either the other leucocytes to change into eosinophiles or has some special attraction for this form of cell.

CONCLUSIONS.

1. *Histological characters of the blood.*—(*a*) The percentage of the coarse-grained eosinophile leucocytes is, with very

TABLE GIVING PARTICULARS OF 50 CASES OF BILHARZIA DISEASE.

No. of case.	Rank.	Regiment.	Place and date where the disease was first noticed.	Place whence patient was invalided.	No. of leucocytes counted in each case.	Percentage of various leucocytes.				
						Eosinophiles.	Polymorphonuclear.	Lymphocytes.	Large mononuclear.	Basophiles.
1	Private.	2nd Royal Irish Fusiliers.	Machadadorp, April, 1902.	South Africa.	302	16·2	48·0	18·2	15·5	1·9
2	Private.	8th Hussars.	Rustenburg, February, 1903.	,,	358	40·0	28·0	11·0	20·0	1·0
3	Private.	Argyll and Sutherland Highlanders.	Rustenburg, February, 1901.	,,	336	17·2	38·7	27·3	15·8	0·9
4	Private.	4th King's Royal Rifles.	Daaspoort, November, 1901.	,,	323	23·8	33·7	22·0	20·1	0·3
5	Private.	Argyll and Sutherland Highlanders.	Bezoutenhoist Valley, July, 1902.	,,	325	7·9	42·8	29·1	19·6	0·4
6	Private.	Royal Horse Artillery.	Zeerust, July, 1901.	,,	322	19·2	52·5	17·7	10·9	0·6
7	Private	1st Argyll and Sutherland Highlanders.	Rustenburg, January, 1901.	,,	300	33·0	28·6	21·3	16·0	1·0
8	Private.	2nd East Kent.	Nelspruit, February, 1902.	,,	310	13·2	50·6	24·8	9·3	1·9
9	Private.	2nd Duke of Cornwall's Light Infantry.	Koomati Port, May, 1901.	,,	331	12·1	39·0	36·2	12·1	0·25
10	Private.	8th Hussars.	Vryheid, October, 1901.	,,	332	14·1	45·8	22·0	17·1	1·0
11	Private	1st Worcesters.	Klerksdorf	,,	312	10·2	38·4	36·2	14·8	0·3
12	Private.	8th Hussars.	Ingogo, October, 1901.	,,	326	6·5	50·0	32·3	10·1	1·0
13	Private.	Royal Army Medical Corps.	Rustenburg, November, 1901.	,,	306	10·4	41·3	29·5	17·3	1·3
14	Private.	1st Welsh.	Johannesburg, November, 1901.	,,	303	1·3	45·2	43·9	9·2	0·3
15	Private.	8th Hussars.	Dundee, November, 1901.	,,	321	27·2	31·9	29·4	9·4	0·7
16	Private.	,,	,,	,,	300	7·7	61·6	19·0	11·7	—
17	Private.	1st Royal Fusiliers.	Pretoria, May, 1902.	Burmah.	322	14·6	40·1	35·1	9·0	0·6
18	Private.	2nd East Kent.	Nelspruit, May, 1901.	,,	312	19·2	45·0	20·5	14·4	0·6
19	Private.	1st Leicesters.	Standerton, May, 1902.	Madras.	304	14·1	49·3	24·0	12·5	—
20	Private.	1st Durham Light Infantry.	Pretoria, March, 1902.	Wellington.	311	22·8	37·6	25·7	12·8	1·2
21	Private.	1st Royal Fusiliers.	Klerksdorp, June, 1902.	Burmah.	316	17·0	44·3	30·4	7·2	1·0
22	Private.	2nd King's Own Yorkshire Light Infantry.	Pretoria, July, 1902.	Malta.	333	28·2	40·5	24·0	6·9	0·3
23	Private.	1st Royal Fusiliers.	Klerksdorp, August, 1902.	Burmah.	318	19·5	34·1	30·8	14·8	0·6
24	Private.	,, ,,	Klerksdorp, June, 1902.	,,	326	28·2	33·8	28·2	9·0	0·9
25	Private.	,, ,,	,,	,,	306	22·5	41·8	25·9	9·8	0·3
26	Private.	Argyll and Sutherland Highlanders.	Rustenburg, January, 1901.	Calcutta.	309	9·0	66·3	15·2	9·4	—
27	Private.	—	—	—	340	16·9	39·0	30·7	13·0	0·3
28	Private.	2nd Berks.	King Williamstown, July, 1901.	Egypt.	321	12·7	47·9	27·7	11·5	—
29	Private.	Argyll and Sutherland Highlanders.	Rustenberg, February, 1901.	Calcutta.	302	6·8	66·0	20·8	6·0	0·6
30	Private.	1st Durham Light Infantry.	Vryheid, February, 1902.	Wellington.	309	25·8	42·6	17·5	14·2	—
31	Lance-Corporal.	Argyll and Sutherland Highlanders.	Rustenburg, February, 1901.	Calcutta.	331	14·2	45·9	23·8	15·4	9·0

TABLE GIVING PARTICULARS OF 50 CASES OF BILHARZIA DISEASE—*(Continued)*.

No. of case.	Rank.	Regiment.	Place and date where the disease was first noticed.	Place whence patient was invalided.	No. of leucocytes counted in each case.	Percentage of various leucocytes.				
						Eosinophiles.	Polymorphonuclear.	Lymphocytes.	Large mononuclear.	Basophiles.
32	Private.	Argyll and Sutherland Highlanders.	Rustenberg, February, 1901.	Calcutta.	316	6·9	55·3	24·3	13·3	—
33	Private.	2nd Berks.	King Williamstown, December, 1900.	Egypt.	333	27·9	43·2	15·6	12·9	0·3
34	Private.	Argyll and Sutherland Highlanders.	Rustenburg, January, 1901.	Calcutta.	335	15·9	56·7	18·4	8·9	—
35	Private.	,,	,,	,,	300	8·3	50·6	16·0	25·0	—
36	Private.	,,	,,	,,	336	5·9	55·2	30·7	7·7	0·3
37	Private.	,,	,,	,,	370	8·6	43·5	36·2	11·6	—
38	Private.	1st Durham Light Infantry.	Brandfort, May, 1902.	Wellington.	345	8·3	60·3	18·5	12·5	0·3
39	Lance-Corporal.	Argyll and Sutherland Highlanders	Rustenburg, November, 1900.	Calcutta.	378	15·6	48·4	22·6	15·1	0·5
40	Private.	,,	Rustenburg, November, 1901.	,,	322	8·4	58·0	23·3	9·3	0·9
41	Private.	1st Durham Light Infantry.	Vryheid, March, 1902.	Wellington.	315	12·7	39·6	31·7	15·5	0·3
42	Private.	1st Yorkshire and Lancashire.	Klip River, January, 1902.	Mhow.	310	8·1	35·1	28·1	28·4	0·3
43	Private.	1st West Yorkshire.	Fredrickshad, August, 1901.	Quetta.	312	5·4	48·6	42·6	4·8	0·6
44	Private.	Argyll and Sutherland Highlanders.	Rustenburg, February, 1901.	Calcutta.	350	14·6	44·0	33·1	8·3	—
45	Private.	Liverpool Regiment.	Machadadorp, August, 1902.	Burmah.	354	15·8	49·7	27·9	6·5	—
46	Private.	,,	,,	,,	312	24·3	33·7	31·2	10·1	0·3
47	Private.	Royal Fusiliers.	Klerksdorp, March, 1902.	Mandalay.	333	28·5	37·2	21·3	12·0	0·9
48	Private.	West Yorkshire.	Rustenburg, 1900.	Quetta.	333	17·7	49·5	26·7	5·4	0·6
49	Private.	Royal Fusiliers.	Vryheid, March, 1901.	Burmah.	354	29·6	44·2	12·1	13·8	0·3
50	Private.	East Yorkshire	Klerksdorp, March, 1901.	Mandalay.	317	30·3	30·6	27·5	10·4	0·1

The total number of leucocytes counted was 16,149. The average percentages of various leucocytes were as follows: Eosinophiles, 16·486; polymorphonuclears, 44·58; lymphocytes, 25·76; large mononuclears, 12·526; and basophiles, 0·503.

REMARKS ON URINARY SEDIMENT, &c.

CASE 1.—Ova in the urine were not very numerous. With very few exceptions all the leucocytes in the urinary sediment were coarse-grained eosinophiles.

CASE 2.—Percentages were taken to nearest whole numbers. Ova were very few. All the leucocytes seen in the urinary sediment were coarse-grained eosinophiles.

CASE 3.—Ova were numerous. The leucocytes in the urine were numerous, mostly coarse-grained eosinophiles, but some polymorphonuclears were present.

CASE 4.—Ova were few. All the leucocytes seen in the urinary sediment were coarse-grained eosinophiles.

CASE 5.—Ova were very numerous. The leucocytes in the urine were mostly coarse-grained eosinophiles but polymorphonuclears and lymphocytes were also present.

CASE 6.—Ova were fairly numerous. The leucocytes in the urine were scarce, mostly coarse-grained eosinophiles; some polymorphonuclears were present.

CASE 7.—Ova were scarce. All the leucocytes in the urine seemed to be coarse-grained eosinophiles.

CASE 8.—Ova very numerous. Nearly all the leucocytes seen in the urinary sediment were eosinophiles; a few polymorphonuclears were present.

CASE 9.—One myelocyte was seen. Ova were fairly numerous. The leucocytes in the urine consisted of equal numbers of eosinophiles and polymorphonuclears; much bladder epithelium was present.

CASE 10.—Ova were fairly numerous. Leucocytes in the urinary sediment consisted for the most part of eosinophiles.

CASE 11.—Ova were extremely numerous. The leucocytes in the urine were mostly eosinophiles but some polymorphonuclears were present.

CASE 12.—Very few ova were present in the urine.

CASE 13.—Ova were scarce; there was much blood in the urine. The leucocytes were not very numerous and were mostly eosinophile, but some polymorphonuclears were present.

CASE 14.—Ova were scarce.

CASE 15.—Ova were fairly numerous. The leucocytes in the urine were mostly eosinophiles.

CASE 16.—Ova were very numerous. The leucocytes in the urine consisted almost entirely of eosinophiles.

CASE 17.—Two myelocytes were seen. Ova were very scarce and much blood was present. The leucocytes in the urine consisted of equal numbers of eosinophiles and polymorphonuclears. Examination of another sample of the urine showed many ova and but little blood.

CASE 19.—Ova were very scarce. Nearly all the leucocytes seen in the urine were eosinophiles.

CASE 25.—Ova were in moderate number. A very large proportion of the leucocytes found in the urine were eosinophiles.

CASE 35.—Some of the large mononuclears contained pigment granules due to malaria.

CASE 40.—The patient was recovering from an attack of orchitis.

CASE 42.—Benign and malignant tertian malaria parasites were present in the blood.

CASE 45.—There were very few ova. Eosinophiles and polymorphonuclears were present in about equal proportions in the urinary sediment; a very few lymphocytes were seen.

CASE 47.—Very few ova were present. The eosinophiles were slightly more numerous than the polymorphonuclears. A very few lymphocytes were seen.

CASE 48.—Very few ova were present. The leucocytes were mostly eosinophiles, the remainder being polymorphonuclears with a very few lymphocytes.

CASE 49.—Very few ova were present. The leucocytes were almost all eosinophiles.

CASE 50.—Very few ova were present. The leucocytes were largely eosinophiles.

few exceptions, much above the average percentage found in normal blood. (*b*) This increase goes hand in hand with a proportional diminution in the percentage of the polymorphonuclear leucocytes. (*c*) Less frequent is an increase of the large mononuclear leucocytes, and where this is present it is associated with a diminution of the lymphocytes.

2. *Histological characters of the white blood corpuscles in the urinary sediment.*—A very large proportion of the leucocytes found in the urinary sediment are coarse-grained eosinophiles, the remainder being almost all polymorphonuclears, lymphocytes and large mononuclear leucocytes being uncommon.

3. *Variations in the number of ova in the urine.*—The ova vary in number greatly from day to day; large quantities of blood and other cells are often present when but few ova can be found.

SOME INVESTIGATIONS ON THE URINE OF CHILDREN.

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THE object in writing this paper is threefold: firstly, to estimate the average amount of urine passed in 24 hours by children of average health of the ages of six months up to 12 years inclusive; secondly, the estimation of the total urea usually passed in the urine of children when in health; and thirdly, the quantitative estimation of the purine bodies in the urine of children of the ages mentioned. The results obtained are recorded in a table and are in relation to age and to body-weight. A full and complete record of the diet has been kept during each experiment. The great bulk of the cases were taken from healthy workhouse children belonging to the parish of Lambeth, but a few cases were taken from the Royal Hospital for Children and Women, Waterloo-road, S.E. (only those beyond suspicion of disease being selected), and three of the children were private patients. The mode of procedure adopted in order to obtain the samples and to arrive at the estimation of the total urine passed by the child in the 24 hours was as follows. The child was required to empty the bladder at a given time—say, 12 noon. This sample was not saved, but all the urine passed up to, and including that passed at, the same hour next day was kept, well mixed, and a sample taken of the mixed urine. The urine total was measured and recorded in cubic centimetres. Each child was also carefully weighed at the time of the experiment. Urea is the chief nitrogen-containing constituent of the urine and its amount was ascertained by means of Gerrard's ureometer, all urine containing albumin being rejected except one sample which contained a very slight trace; this was boiled and carefully filtered before being tested. The purine bodies, although containing a comparatively small quantity of nitrogen, are of great interest from the point of view of proteid metabolism and the estimation of uric acid and I am not aware that they have been estimated systematically and in this manner before. The purine bodies used to be called xanthine bases or nuclein bases because they are derived from nuclein, or alloxuric bases because they contain in combination two radicles, one of alloxan and the other of urea. Latterly they have been shown to be derivatives of a substance called purine by E. Fischer. They consist of the following amongst others (purine $C_5H_4N_4$): monoxypurine or hypoxanthine, $C_5H_4N_4O$; dioxypurine or xanthine, $C_5H_4N_4O_2$; amido-purine or adenine, $C_5H_4N_4NH$; amido-oxypurine or guianine, $C_5H_4N_4ONH$; trioxypurine or uric acid, $C_5H_4N_4O_3$. Theobromine (dimethyl xanthine), caffein theine (trimethyl xanthine), substances which are present (in quantities varying from 1 to 3 per cent.) in cocoa, coffee, and tea respectively, are also purine derivatives. Purine itself ($C_5H_4N_4$) has not as yet been discovered in the body.

The quantity of purine bodies found in the urine bears a direct relation to the amount of the purine contained in the food eaten and is also affected by the extent of the nuclein cleavage in the metabolic processes of the body. The former group have been named exogenous and the latter endogenous purine. The purine bodies may be fully precipitated by nitrate of silver in ammoniacal solutions or by cuprous oxide in the presence of sodium bisulphite. They exist in all forms of meat extracts and in flesh meats of all kinds. The potato and other vegetables, such as the beetroot, contain them. Oats also contain them. The specific actions of uric acid and the other purine bodies upon the various tissues of the body are of great interest and importance: (1) in relation to the question of diet in children during the early years of life; and (2) in regard to the cessation of the processes of growth, the maintenance of adult life, and the gradual decline of bodily activities.

The estimation of purine substances in food has been made by several observers—Kossel-Burian and Schur, Offer and Rosenqist, and more recently by Dr. I. Walker Hall of Manchester. Several methods have been devised for the estimation of uric acid which need not be described here. The method of Dr. Hall for estimating the total urinary purines is one which I have used and is as follows. (In the experiments recorded in this paper only albumin-free urine was used, but for other experiments if any albumin should be present it is necessary to precipitate and to remove it by filtration.) Two solutions are used:—No. I. solution consists of Ludwig's magnesium mixture,[1] 100 cubic centimetres; ammonia solution, 20 per cent., 100 cubic centimetres; and talc, 10 grammes. No. II. solution consists of silver nitrate, one gramme; ammonia, strong, 100 cubic centimetres; talc, five grammes; and distilled water, 100 cubic centimetres. To 90 cubic centimetres of the urine 20 cubic centimetres of No. I. solution are added. An immediate precipitate of the phosphates falls and the clear fluid remains. To 80 cubic centimetres of the clear fluid 18 cubic centimetres of solution No. II. are added. The resultant precipitate is a mixture of silver chloride and silver purine. The former body is dissolved by the excess of ammonia. The filtrate is shaken until all white flakes disappear and the finely granular yellow-white precipitate remains suspended. If the silver chloride is not entirely dissolved strong ammonia is added drop by drop and the solution well shaken until no AgCl remains. These two processes which have first been described are best carried out by means of the "purinometer." It consists of three parts: (1) a closed graduated tube, (2) a stop-cock with above of the same diameter as the upper tube, and (3) a small glass reservoir of known cubical capacity. The graduated tube is capable of being shut off from the broader part by the glass stop-cock. The upper part of the cylinder has a moveable glass-stopper. 90 cubic centimetres of urine are taken from the mixed urine of the 24 hours and poured into the graduated cylinder, taking care to have the stop-cock turned off. Solution I. is added and the resulting precipitate of phosphates is allowed to fall into the lower part of the tube by turning on the stop-cock. The time for the fluid to become quite clear varies, but is never less than five minutes and seldom over half an hour; the powdered talc greatly helps the precipitate to settle. When the phosphates have in this manner fallen to the lower end of the tube the stop-cock is turned off again and No. II. solution is added up to 100 cubic centimetres. The purinometer should be inclined vigorously backwards and forwards for about a minute in order to dissolve the silver chloride and to reduce the flakes to a finely divided precipitate. The apparatus is placed in a cupboard away from the light and then the number of cubic centimetres occupied by the precipitate is read off 24 hours later. Dr. Hall recommends waiting as long as this and I have followed these instructions, but I consider that this time is unnecessarily long. No tea or coffee was allowed during the experiment. Table I. shows the results which were obtained by the methods which have just been indicated.

This table gives a summary of the results of these investigations. It has been shown that in order to obtain reliable information regarding the amount of urine, urea, or purine bodies it is not sufficient to take one 24 hours' sample, at least *three* must be taken from each case. The variation is often considerable from day to day and the urea which on one day shows a high percentage on the following day (and perhaps because of this) may have dropped to a corresponding low ratio. This remark also applies to the amount of urea, which in many cases varies very considerably on different days, and the same applies to the purine estimation. In all, 63 samples have been taken from healthy children, so that the results have some claim to be regarded as fairly

[1] Mag. chlor. crystal, 110 grammes; ammonium chloride, 110 grammes; ammonia, 280 grammes; and water, one litre.

representing the normal urinary percentages, &c., of healthy English children.

General conclusions.—The *amount* of urine of course increases with the growth and development of the body, but the amount of urine passed per kilogramme of body-weight (although presenting some variation in different individuals, due either to their constitution or their habits) will be found *not* to increase. The amount of urea passed per kilogramme of body-weight would appear to be increased about the second year, but after this it remains fairly constant up to the age of 12 years, and the increase at the second year is probably only due to the greater quantity and misleading on account of the production of aphysiological conditions.

It is interesting to note that these conclusions in respect to the total quantity of urine and urea contained in it are in general agreement with the results obtained by Dr. Churchill, professor of pediatrics in the Chicago Polyclinic [2] (vide Table II.). Dr. Churchill mentions the fact that American children excrete a smaller amount of urine than those of Germany and Austria and some other countries. The present observations show that the same remark applies to English children (or more correctly London children). Vierordt's [3] tables on this subject show an

TABLE I.—SHOWING PERCENTAGE COMPOSITIONS OF URINES OF 63 HEALTHY CHILDREN.

Age.	Kilogrammes (average weight).	Sex.	Total specimens.	Average amount.	Urea, average per cent. in grammes.	Purine, average per cent. in grammes.	Urea, average total in grammes.	Purine, average total in grammes.	Urea, amount per kilogramme of body-weight.	Purine, amount per kilogramme of body-weight.	Amount of urine per kilogramme of body-weight.
1 year.	10·0	1 M.	3	214 c.c.	1·8	0·0064	3·79	0·0178	0·379	0·00178	21·4 c.c.
2 years.	14·0	1 M. 1 F.	6	336 ,,	1·7	0·0184	5·73	0·06	0·4	0·00428	24·0 ,,
3 ,,	13·9	1 M. 1 F.	7	350 ,,	2·6	0·0111	8·69	0·0412	0·625	0·00296	25·7 ,,
4 ,,	16·6	1 M. 1 F.	6	383 ,,	3·35	0·0281	13·04	0·0970	0·785	0·00543	23·0 ,,
5 ,,	15·0	1 M. 1 F.	8	276 ,,	3·5	0·0144	8·896	0·0245	0·593	0·00163	18·4 ,,
6 ,,	18·7	2 F.	6	529 ,,	3·2	0·0148	16·26	0·794	0·869	0·0423	26·8 ,,
7 ,,	18·2	1 F.	3	397 ,,	3·1	0·0162	12·38	0·0642	0·63	0·0055	21·8 ,,
8 ,,	18·8	1 M. 1 F.	6	478 ,,	2·65	0·0162	12·79	0·0799	0·63	0·0042	25·4 ,,
9 ,,	22·4	1 F.	3	577 ,,	3·2	0·0150	18·46	0·2733	0·824	0·0122	25·3 ,,
10 ,,	30·4	2 F.	6	430 ,,	2·97	0·011	12·8	0·0475	0·424	0·0015	14·1 ,,
11 ,,	23·6	1 M. 1 F.	6	615 ,,	3·35	0·131	20·41	0·0801	0·865	0·0033	21·8 ,,
12 ,,	29·2	1 F.	3	586 ,,	3·2	0·0133	17·59	0·075	0·6	0·0204	20·0 ,,

Total, 63 specimens.

TABLE II.—DR. CHURCHILL'S TABLES.

Age.	Body-weight in kilogrammes.	Sex.	Total specimens.	Amount.	Urea per cent.	Total urea in grammes.	Phosphates.	Sulphates.	Amount of urine to kilogramme of body-weight.	Grammes of urea to kilogramme of body-weight.
3 years.	16·8	2 M.	5	358 c.c.	2·2	7·87	—	—	21·3 c.c.	0·468
4 ,,	16·9	7 M. 4 F.	31	299 ,,	2·9	8·67	—	—	17·6 ,,	0·513
5 ,,	16·7	1 M. 7 F.	17	392 ,,	2·6	10·19	—	—	23·3 ,,	0·606
6 ,,	20·9	2 F.	2	405 ,,	2·7	10·94	—	—	24·2 ,,	0·655
7 ,,	22·6	1 M. 5 F.	4	564 ,,	1·1	6·2	—	—	26·9 ,,	0·296
8 ,,	26·2	2 M. 7 F.	20	638 ,,	2·2	13·82	—	—	27·8 ,,	0·611
9 ,,	27·5	1 M. 9 F.	25	731 ,,	2·3	16·81	—	—	27·9 ,,	0·641
10 ,,	27·2	2 M. 6 F.	15	768 ,,	2·1	11·23	—	—	27·9 ,,	0·582
11 ,,	36·4	1 M. 3 F.	7	716 ,,	2·3	16·83	—	—	26·3 ,,	0·618
12 ,,	—	2 M. 3 F.	8	829 ,,	2·8	23·21	—	—	22·7 ,,	0·637

Totals: 19 males, 44 females, and 134 specimens.

variety of the food ingested. The results of the investigations of the excretion of urinary purines show that the amount excreted per kilogramme of body-weight bears no relation whatever to the age or sex of the individual. And this is of great interest when it is coupled with the fact that there are comparatively great variations, pointing, as it does, to idiosyncrasies in this respect, and it may be of value as indicating hereditary and constitutional tendencies. The method adopted in this series of experiments has been as nearly as possible physiological. The children were fed on an ordinary and suitable dietary, were healthily employed, and had regular exercise. I consider that the results obtained from specialised dietaries are apt to be enormous difference in this respect, but as his percentages were based on a very small number of cases they cannot be regarded as final (vide Table III.). As tending to confirm this it is evident that even in adults the amount of urine passed in Germany and Austria is greater than in England and America. Salkowsky gives from 1500 to 1700 cubic centimetres as the average in Germany. Jaksch gives it as from 1500 to 2000 cubic centimetres in Austria. Landois and Stirling record the English average as from 1000 to 1500 cubic centimetres.

[2] Archives of Pediatrics, 1898, vol. vi., p. 646.
[3] Vierordt's Physiologie des Kinderalters, 1877.

TABLE III.—*Vierordt's Table.*

Age.	No. of cases.	Average weight in kilogrammes.	Total urine in 24 hours, cubic centimetres.	No. of cubic centimetres for each kilogramme of body-weight.
3–5 boys ...	4	13·82	743	53·05
3–5 girls ...	4	14·73	708	48·0
6 boys	1	15·5	1209	78·0
7 ,, ...	1	22·42	1055	47·06
11 ,, ...	1	24·0	1815	75·64
13 ,, ...	1	32·69	788	23·12
——		65·0	1700 to 1800	28·0

Gautier gives that of France as from 1250 to 1300 cubic centimetres and Simon that of Americans as from 1000 to 1300 cubic centimetres. Herz,[4] after noting results from 60 children of both sexes from the ages of three to 14 years, found that from 500 to 1400 cubic centimetres was the average daily amount and Camerer found from 619 to 1034 cubic centimetres in individuals of from two to 11 years old. Parrot, Cruse, Camerer, Martin Ruge, and others state that from 200 to 500 grammes are the average diurnal quantity of urine passed by a child from one month to two years old. Dohrn and Martin Ruge state the newly born infant passes in relation to every kilogramme of body-weight four times as much urine as the adult. Holt[5] by combining the results of the investigations of Schabanowa, Cruse, Camerer, Martin Ruge, Pollak, Barti, Schiff, and Herter gives the following :—

TABLE IV.

Age.	Total urine.	
	Grammes.	Ounces.
First 24 hours	0 to 60	0 to 2
Second 24 hours	10 ,, 90	½ ,, 3
Three to six days	90 ,, 250	3 ,, 8
Seven days to two months	150 ,, 400	5 ,, 13
Two to six months...	210 ,, 500	7 ,, 16
Six months to two years	250 ,, 600	8 ,, 20
Two to five years	500 ,, 800	16 ,, 26
Five to eight years...	600 ,, 1200	20 ,, 40
Eight to 14 years	1000 ,, 1500	32 ,, 48

Urea.—In regard to the excretion of urea, Dohrn found 36 milligrammes of urea in the bladder of a child who was just born and Martin Ruge found the following quantities (grammes) during the first ten days of life : 0·07683, 0·2504, 0·1358, 0·1817, 0·2567, 0·2267, 0·2284, 0·16240, and 0·1535. Although the amount of urea is very plentiful up to the end of the first month (0·80 gramme per kilogramme of child) according to Parrot, and amounting during the third week to 1 gramme and 1·89 grammes, Dr. Fernandez Figueira[6] of Rio de Janeiro says we may conclude that the amount is 1·7 per cent. and therefore less than in adults. Holt (1903) gives the following[7] : First days, 0·076 to 0·114 gramme ; two to seven days, 0·140 to 0·660 gramme ; one to two months, 0·90 to 1·40 grammes ; three to five years, 13·09 to 14·01 grammes ; and five to 13 years, 16·0 to 21·03 grammes. This estimate gives a considerably lower amount in the case of children of from three to five years than I have found to be the case and also a slightly lower estimate in children of from five to 13 years of age. Churchill found that not only were the average percentages for children higher than the average given for adults, but individual cases show a remarkably high percentage of elimination of urea, no less than eight children having over 3 per cent., the highest being 3·7 per cent., and this observation exactly agrees with the results obtained in the present investigations. Purdy and Foster also state that the excretion of urea in children is relatively higher than in adults. The low percentage of early infancy is, of course, due to the quiescent state of the child, but Martin Ruge reports wide variations in single specimens during the first ten days of life varying from 0·6 to 1·9 per cent. Schiff also gives wide variations, from 0·28 to 1·7 per cent., during the first 14 days. Vierordt's observations give from 1·1 to 2 per cent. for older children from three to 12 years old, but this result is based on only seven cases. Vogel[8] pointed out in 1863 that although the absolute quantity of urea passed by both women and children is less than by men yet the relative quantity passed by children in relation to the body-weight of the adult is greater. According to Uhle's[9] observations (1859) children pass for each kilogramme of their body-weight as follows : Urea, from three to six years about 1·0 gramme ; from eight to 11 years about 0·8 gramme ; and from 13 to 16 years about 0·4 to 0·6 gramme. This result as regards the ages eight to 11 years is in accordance with mine. Vogel says that the quantity naturally varies in different persons and in the same person at different times according to the bodily constitution and the nature of the diet and the activity of the nutritive functions of the individual. Moreover, these numbers do not include the maximum and minimum quantities of urea which occur in certain cases in perfectly healthy persons. Neubauer[10] in 1863 proved that the urine of a healthy man fed on a mixed diet contained from 2·5 to 3·2 per cent. of urea and that the amount varied directly as did the weight of body and quantity of food ingested, but numerous other investigations give from 30 to 40 grammes = 0·37 to 0·60 gramme per kilogramme of body-weight. Lehmann found 58 grammes of urea in 24 hours under a purely animal diet and this dwindled to 0·15 gramme on a non-nitrogenous diet. The urea does not wholly disappear even when no food is taken.

It is beyond the scope of this paper to discuss the origin of the urea and the causes of its variation, though it may be mentioned that Franque of Würzburg as far back as 1855 established that it was affected by the amount of nitrogenous food ingested and Vogel stated in 1863 that the amount of urea was an approximate measure of the degree of metamorphosis of proteid compounds going on in the body ; both these views are probably correct.

Purine bodies.—The conclusions arrived at by me as to the amount of the purine bodies excreted have been briefly referred to in an earlier part of this paper. The results recorded show that although there is much variation per kilogramme of body-weight, yet this variation bears no relation to the age of the child. Uric acid is included in the purine series and Holt says in the last (1903) edition of his work (p. 640) that few observations have been made on the elimination of uric acid, but all authorities agree that it is much higher in the newly born than at any subsequent period of life.

Proportion of uric acid to urea.—Martin Ruge gives in the newly born, 1 to 14 ; Herter gives—under one year, 1 to 60 ; from two to five years, 1 to 50–70 ; and from two to 15 years, 1 to 45–60.

Concluding remarks.—In presenting the result of these investigations I feel bound to allude to the fact that, since medicine is not an exact science, it is important for physicians in this country to have data to refer to which have been obtained in this country, for however much we may owe to foreigners and to their statistics it is impossible, as the accompanying tables show, for them to be accepted as indicative without modification of the normal condition of things that obtains in the people of our own country who are not only of another race but, generally speaking, live under other conditions.

It is interesting to find that the results of the present inquiry nearly agree with those obtained from American children by Dr. Churchill. The remarks of Dr. Figueira cannot be passed by when he says that the diseases of the urinary system and of other organic local affections demand a practical knowledge of clinical urology, and this chapter of infantile semeiotics is as important as it is generally neglected, either because it is believed erroneously that disturbances of the urinary functions are infrequent in the child or because of the usual difficulty in collecting the urine for

[4] Wiener Medicinische Wochenschrift, Band xliv.
[5] Holt on Diseases of Infancy and Childhood, 1903, p. 638.
[6] THE LANCET, Sept. 12th, 1896, p. 736.
[7] Diseases of Infancy and Childhood, 1903, p. 640.
[8] Analysis of the Urine, Neubauer and Vogel.
[9] Wiener Medicinische Wochenschrift, 1859 (7 to 9).
[10] Analysis of Urine by Neubauer and Vogel, 1863.

examination. Dr. A. W. Gilchrist,[11] Dr. H. Harper,[12] Mr. Edwy G. Clayton,[13] and others have recently pointed out that the urine of tuberculous patients shows unusually low proportions of phosphates and of urea. Dr. Harper strongly advocates the use of urea to supply the deficiency, but I cannot say that I have ever seen any improvement from its use clinically. The diminution of nitrogen in the urine may be taken as a proof that there is an interference with proteid metabolism, but it seems to be a crude therapeutics that would supply it in the form in which it is excreted and what may be a valuable hint from nature becomes of no value practically if it is to be interpreted after this fashion. I feel confident that the estimation of the urea and purine bodies as well as of the other constituents of the urine will be of service in the determination and treatment of certain diseases and I am hopeful that this contribution towards the subject may be of use in the evolution and advancement of our knowledge of those early chemical changes that take place in the human organism in the course of disease, antecedent as they are to those gross lesions with which the pathologist becomes so familiar and after all are oftentimes only monuments of the present deficient state of knowledge of the slow and subtle processes whereby those organic changes have been produced.

SOME OBSERVATIONS AND COMPARISONS ON THE DIETETIC AND DRUG TREATMENT IN CHRONIC PULMONARY TUBERCULOSIS.

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THE treatment of pulmonary tuberculosis in sanatoriums is a topic which has excited a great deal of attention. The recent literature on the subject has grown to immense proportions and many so-called "specific" drugs have been brought forward and advocated by various authorities. Some of these are tried, soon given up, and are never heard of again. Naturally one cannot deal here with such a wide subject. I know fully that there may be little new in what follows and it is mostly for the sake of giving a general survey and of showing the value of the various treatments adopted in the Manchester Sanatorium (which my personal experience has led me to consider the most satisfactory) that I have ventured to bring forward the following. Of course, in criticising the results of sanatorium treatment it must always be borne in mind that to secure the best results one must be careful in the selection of cases and this is a difficulty with the working classes. Early cases are the only ones likely to be cured, but there is sometimes the difficulty of making an early diagnosis and frequently cases come too late. The existence of tuberculosis cannot always be confirmed by the detection of the specific bacilli in the sputum, as frequently expectoration is absent or it may consist of mucus which may not give positive results even after repeated examinations. I have made it a condition in choosing these cases that the tubercle bacillus was found in the sputum, all being fair examples of the "consumptive" patient, in whom there was every reasonable hope of establishing an arrest of the disease. Moreover, they were in the sanatorium at the same time during the early part of the year and so were subjected to the same climatic conditions and diet.

A more practical end will be attained if the diet in use at Bowdon (*vide* diet chart) is first considered and then the cases arranged under the various kinds of treatment employed. It is a very remarkable fact that under the influence of the open-air treatment and a judicious diet most of the well-known symptoms disappear altogether, or, at least, are greatly modified without any drug treatment.

The accompanying diet chart compares very favourably with that in use in some of the best sanatoriums. The milk at Bowdon is supplied by contract and has to be sterilised or boiled before being served unless otherwise ordered. The only comment to be made is that the milk-supply to a sanatorium should be above reproach or suspicion so that sterilisation should not be necessary.

In looking over the statistics and results of the various sanatoriums the nomenclature in use does not quite tally, so that it will be better beforehand to explain that in use at Bowdon. To make the statistics of public sanatoriums of greater value a system of classification according to the stage of the disease on admission and result on discharge should be generally adopted. The average stay at Bowdon of each patient is 91 days, who is then discharged in one of the following conditions.

Cured, with no cough, expectoration, or physical signs; a temperature with a daily amplitude or excursion of 1° either above or below the normal, 98·4° F. being the mid-point; the pulse slower, regular, and full; the weight having increased in proportion to height and age; and in the case of women the menstruation regular.

Much improved, with no expectoration, very slight cough, physical signs limited to slightly exaggerated breathing over the affected area; with temperature, pulse, and weight as above; and ability to return to work as before.

Improved, with only a slight cough present, scanty expectoration; no moist sounds in the chest, and a satisfactory temperature, pulse, and weight.

Stationary, with a cough present; scanty expectoration; physical signs confined to the same area and of the same character, and a regular temperature and pulse and increased weight.

Worse, with no amelioration of the symptoms and the disease extending.

Table I. gives the results of nine cases treated with an emulsion of creasote (five minims) three times a day, cod-liver oil and malt being given in addition. No other medicine was given to the above patients. A few of them suffered from nausea and vomiting, the creasote mixture being then stopped or only half doses given. The majority of those at the Manchester Sanatorium find no inconvenience from the creasote and take it well; in some the "oil and malt" has to be stopped owing to its causing indigestion or diarrhœa, but is continued on the abatement of such symptoms. Here there are cases in all stages of the disease; five were discharged as stationary and two worse, the last having increased considerably in weight.

Table II. gives particulars of six cases treated with guaiacol administered as a pill (three minims) three times a day, "oil and malt" being given as well. The pills were first given in the usual white-coated form, but it was observed that they were sometimes passed unchanged; this was also noticed when an enema had to be given. One might argue on this score that the pills were too hard or badly made and not a fair test; to obviate this uncoated pills were given. It is difficult to detect these in the fæces as being almost of the same colour, but undoubtedly some are dissolved and absorbed. In this table the results are most favourable, the increase in the patients' weight being far above the average, which is generally about 10 pounds, but the majority of the cases were in the first stage of the disease.

Table III. gives particulars of six cases treated with liquor arsenicalis (B.P.) only, no "oil and malt" being given. Arsenic was given in the form of the simplest mixture with rose water, the dose being gradually increased from three to 15 minims (in some cases) three times a day after meals. It was observed that no idiosyncrasy to the drug was shown in any of the patients and none showed symptoms of arsenical poisoning; a few only exhibited prodromata, such as suffused conjunctivæ, increased nasal secretion, and sternutation; very few exhibited gastric symptoms. The presence of arsenic was subsequently proved in the urine of some of the patients by means of Marsh's and Reinsch's tests. I may add that I found in the routine examination of the chests that the moist sounds "dried up" sooner and assumed a more crepitant character at an earlier period in the patients taking this drug than in the "control" cases in the sanatorium. It will be noticed that in this table the highest gain in weight is 6½ pounds. One is led to ask what would the increase be if the "oil and malt" had been given in addition. In one patient (No. 3) the disease was confined to the right apex and in the early stage, the increase in weight being only one and three-quarter pounds and the patient being discharged as "cured," and one can truly say so of this case.

Much of the fat "put on" is probably of little use to

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[11] THE LANCET, Nov. 29th, 1902, p. 1456.
[12] THE LANCET, March 9th (p. 694), June 15th (p. 1672), and Dec. 7th (p. 1567), 1901.
[13] THE LANCET, Sept. 6th, 1902, p. 656.

the patient and disappears rapidly when he returns to the ordinary conditions of life and work, and one should not forget that to make a patient fat and to make him strong are not necessarily the same thing. *The end in view in open-air treatment of the working classes is to place the patient as nearly as possible on his former wage-earning basis.*

Table IV. gives the results of eight cases treated with a simple mixture of nux vomica, gentian, and acid, no "oil and malt" being given. The results in this table compare most favourably with the others and the gain in weight was most satisfactory, showing that the digestion and absorption of certain constituents of the food have been thorough and the increase in weight due entirely to an improved metabolism in the tissues generally, thus making a physiological use of

DIET CHART OF MANCHESTER SANATORIUM.

Meal and time.	Sunday.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
6.30.	Half pint of hot milk and cocoa.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.
Breakfast, 8.30.	Eggs.	Cold ham.	Fish, brawn, or eggs.	Cold ham.	Fried bacon.	Cold ham.	Fish.
Lunch, 10.15.	Half-pint of milk and bread-and-butter or bread-and-treacle.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.
Dinner, 12.30.	Half-pint of milk, roast mutton, potatoes, and boiled pudding.	Roast beef, two vegetables, and milk pudding.	Roast mutton, two vegetables, and milk pudding and fruit.	Roast beef, Yorkshire pudding, two vegetables, and milk pudding.	Roast mutton or stew, two vegetables, and milk pudding.	Minced or cold meat and fish, potatoes, and milk pudding and fruit.	Roast beef, two vegetables, soup, and milk pudding.
Tea, 4.30.	Tea, bread-and-butter, jam or cheese, and eggs.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.
Supper, 7.30.	Porridge and half pint of milk.	Varied by soup.			Coffee and bread-and-butter.		
9.30.	Half pint of hot milk.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.	Same as Sunday.

The diet is slightly varied according to the season.

TABLE I.—GIVING THE PARTICULARS OF NINE CASES TREATED WITH CREASOTE PLUS COD-LIVER OIL AND MALT.

No. of case.	Sex.	Stage and extent of disease.	Tubercle bacillus.	Expectoration.	Cough.	History of hæmoptysis.	Temperature (Fahr.).	Pulse.	Condition of nutrition.	Anæmia and menstruation.	Gain or loss of weight in pounds.	Result and remarks.
1	M.	Second, R.I.	+	Scanty.	Not troublesome.	+	99·2°	80	Fair.	N.S.O.	+ 5½	Stationary.
2	F.	Second, R.I. and L.I.	+	Purulent.	Much.	+	98·8°	90	Spare.	M.I.	+ 10½	,,
3	F.	Second, R.I. and II.	+	Scanty, purulent.	Troublesome.	+	98·6°	90	Poor.	Anæmic; M.I.; N.S.P.	+ 10	Much improved.
4	F.	Second, R.I.	+	Scanty, purulent.	,,	0	98·8°	92	Thin.	A.O, M.I., N.S.P.	+ 7¼	Stationary.
5	M.	Third, R.I. and II., L.I.	+	Profuse.	,,	0	99·4°	73	Fair.	N.S.O.	+ 5	,,
6	F.	Third, R.I. and II., and L.I.	+	,,	,,	0	102·0°	112	Thin.	Menopause; N.S.P.	+ 12	,,
7	F.	Second, L.I.	+	,,	,,	+	98·0°	92	Spare.	A.O, M.O, N.S.P.	+ 11½	Much improved.
8	F.	Third, R.I. and L.I.	+	Profuse and purulent.	,,	0	103·4°	120	Poor.	A.O, M.O, N.S.P.	+ 10½	Worse.
9	M.	Second, R.I., L.A.	+	Scanty.	,,	+	99·2°	96	Spare.	N.S.O.	+ 15½	,,

TABLE II.—GIVING PARTICULARS OF SIX PATIENTS TREATED WITH GUAIACOL ADMINISTERED IN THE FORM OF A PILL, "OIL AND MALT" BEING GIVEN AS WELL.

No. of case.	Sex.	Stage and extent of disease.	Tubercle bacillus.	Expectoration.	Cough.	History of hæmoptysis.	Temperature (Fahr.).	Pulse.	Condition of nutrition.	Anæmia and menstruation.	Gain or loss of weight in pounds.	Result and remarks.
1	M.	Second stage, fibroid.	+	Purulent.	Slight.	0	99·2°	90	Fair.	N.S.O.	+ 15½	Much improved.
2	F.	Second, R.I.	+	Profuse.	Present.	+	99·2°	92	,,	Menopause.	+ 20½	Improved.
3	F.	First, R. and L.A.	+	Purulent.	,,	+	98·8°	88	Good.	A.O, M.R., N.S.P.	+ 25¼	Much improved.
4	F.	,,	+	Profuse.	Troublesome.	0	98·6°	100	Poor.	A.O, M.O, N.S.P.	+ 18½	,,
5	F.	First, R.A.	+	Scanty.	Very little.	+	98·4°	72	Fair.	M.R., A.O, N.S.P.	+ 8	,,
6	F.	First, R.I. and L.I.	+	,,	Little.	+	98·0°	72	Spare.	A.O, M.R., N.S.O.	+ 9	Improved.

the foodstuffs supplied rather than the plethoric storage of excess material.

Table V. gives the results of six cases treated with urea (one gramme three times a day flavoured with five minims of spirit of chloroform), no "oil and malt" being given, and Table VI. gives the details of analysis of the urine of three of the cases. It was very doubtful from the first whether one of these cases (No. 6) was tuberculous; the sputum was examined on ten or 12 occasions but with a negative result. The physical signs in the lungs showed nothing adventitious; the case was, however, kept as a "control" for the other "urea" cases throughout. None of these cases showed any loss of appetite, nausea, or vomiting, which, according to Dr. H. Harper, is an indication against urea. From a study of these cases one cannot but agree *in toto* with Dr. S. Vere Pearson's results on the patients at the Brompton Hospital. In the first case only can anything like a favourable result be said to have been obtained.

TABLE III.—GIVING THE PARTICULARS OF SIX CASES TREATED WITH ARSENIC ONLY, NO "OIL AND MALT" BEING GIVEN.

No. of case.	Sex.	Stage and extent of disease.	Tubercle bacillus.	Expectoration.	Cough.	History of hæmoptysis.	Temperature (Fahr.).	Pulse.	Condition of nutrition.	Anæmia and menstruation.	Gain or loss of weight in pounds.	Result and remarks
1	M.	First, R.A.	+	Scanty, purulent.	Very little.	0	99·0°	80	Fair.	N.S.P.	+ 6½	Very much improved.
2	M.	,, ,,	+	Scanty.	Little.	0	97·4°	76	,,	N.S.O.	+ 5½	,,
3	F.	,, ,,	+	Scanty, purulent.	,,	0	98·6°	96	,,	—	+ 1½	Cured.
4	M.	Second, R.I. and L.I.	+	Purulent.	Troublesome.	+	98·6°	112	Poor.	N.S.P.	+ 2¼	Worse.
5	F.	,, ,,	+	Scanty.	Very little.	0	99·4°	100	Fair.	A.O, M.R., N.S.O.	+ 3½	,,
6	F.	,, ,,	+	Profuse.	,,	+	98·2°	76	,,	A.O, M.I., N.S.O.	+ 5½	Stationary.

TABLE IV.—GIVING THE PARTICULARS OF EIGHT CASES TREATED WITH NUX VOMICA, GENTIAN, AND ACID, NO "OIL AND MALT" BEING GIVEN.

No. of case.	Sex.	Stage and extent of disease.	Tubercle bacillus.	Expectoration.	Cough.	History of hæmoptysis.	Temperature (Fahr.).	Pulse.	Condition of nutrition.	Anæmia and menstruation.	Gain or loss of weight in pounds.	Result and remarks.
1	M.	Second, R.A.	+	Scanty, thick.	Troublesome.	+	98·4°	80	Fair.	N.S.P.	+ 10¾	Improved.
2	M.	Second, R.I. and L.I.	+	Profuse.	Much.	0	98·4°	80	Spare.	N.S.O.	+ 11½	,,
3	F.	First, R.I. and L.II.	+	Watery.	Irritating.	0	99·4°	92	Fair.	A.O., M.O., N.S.P.	+ 1	Laryngeal complication; improved.
4	M	Second, R.I. and L.I.	+	Profuse.	Not troublesome.	+	99·0°	96	,,	N.S.P.	+ 16½	Laryngeal complication; stationary.
5	M.	Second, L.I. and II.	+	Scanty.	Very little.	0	98·6°	92	,,	N.S.O.	+ 18¾	Stationary.
6	F.	Second, L.I. and II.	+	Mucoid.	Troublesome.	+	98·2°	72	Poor.	A. +, M.R., N.S.O.	+ 7¼	Improved.
7	F.	First, L.I.	+	Scanty.	Not troublesome.	+	98·0°	96	Spare.	A. +, M.O., N.S.O.	+ 6½	Very much improved.
8	M.	Second, R.I. and L.A.	+	Variable.	Troublesome.	0	100·0°	96	,,	N.S.O.	+ 24¾	,,

TABLE V.—GIVING THE PARTICULARS OF SIX CASES TREATED WITH UREA.

No. of case.	Sex.	Stage and extent of disease.	Tubercle bacillus.	Expectoration.	Cough.	History of hæmoptysis.	Temperature (Fahr.).	Pulse.	Condition of nutrition.	Anæmia and menstruation.	Gain or loss of weight in pounds.	Result and remarks.
1	M.	First, R.A.	+	Greenish and thick.	Troublesome at night.	0	99·0°	80	Fair.	N.S.P.	+ 11½	Very much improved.
2	M.	Second, R.I. and II. and L.I.	+	,,	Present.	0	98·4°	90	,,	N.S.O.	+ 8¾	Worse.
3	M.	Second, R.I. and L.I.	+	Profuse.	Very troublesome.	+	99·4°	100	,,	,,	+ 2½	Stationary.
4	F.	,,	+	Profuse and purulent.	Troublesome.	+	99·4°	76	Good.	A.O, M.R., N.S.O.	− 4½	Worse.
5	M.	Second, R.I.	+	,,	,,	0	99·0°	88	—	—	+ 6	,,
6	F.	R.A., doubtful.	None found	Very little, mucoid.	Very little.	0	99·0°	82	Good.	A.O, M.I., N.S.O.	+ 1	Doubtful if tuberculosis.

R.I. = Right upper lobe. R.I. and II. = Right upper and lower lobes. L.I. = Left upper lobe. L.I. and II. = Left upper and lower lobes. R.A. = Right apex. L.A. = Left apex. R. and L.A. = Right and left apex. A.O. = Anæmia absent. A. + = Anæmia present. M.R. = Menstruation regular. M.I. = Menstruation irregular. M.O. = Menstruation in abeyance. N.S.P. = Night sweats present. N.S.O. = Night sweats absent. + = present.

From the above cases and those now given urea in the wards it appears to have no influence whatever in the progress of the disease one way or the other. If urea is going to do any good an improvement should show itself within three months. The doses given were one gramme three times a day, increased to two grammes three times a day; these are not such large doses as Dr. Harper uses. Now as to the diuretic action of urea (*vide* Table VI.). A daily estimation of the urine was made in Cases 1, 2, and 6; the urine was most carefully collected and analysed. Nothing was given for the first 21 days in the way of drugs or emulsion of oil and malt. Then the patients were given urea, one gramme three times a day, and the urine was collected and analysed as before for 26 days. The apparatus used for the estimation of the urea was Southall's ureometer. In Case 2 only is the output of urea less than that which was administered by the mouth. This I cannot account for, as there was nothing abnormal or adventitious in the urine analysis. Undoubtedly urea must be excreted in some other way than as urea, as the amount of urea "put in" does not show itself in the urea "put out." I was always led to believe that urea induced diuresis, but my observations are not in accordance with this; for the first few days it may be so, but the action soon passes off. In Table VI. it will be seen that in Cases 1

TABLE VI.—*Giving the Particulars of the Urinalysis of Cases 1, 2, and 6.*

No. of case.	Tubercle bacillus found in sputum.	Non-urea period (21 days).			Urea period (three grammes per diem 26 days).		
		Average quantity in cubic centimetres.	Average specific gravity.	Urea, grammes per litre (average).	Average quantity in cubic centimetres.	Average specific gravity.	Urea, grammes per litre (average).
1	Present.	1411	1021·4	0·00158	1174·6	1022·5	0·00176
2	,,	1518	1020·0	0·0015	1303·4	1014·9	0·00132
6	None.	1549	1015·0	0·00103	1507·7	1014·3	0·00131

and 2 the average quantity in cubic centimetres per diem of urine secreted is much below that when no urea was taken, whereas in Case 6 (control) the difference is little (about 42 cubic centimetres).

We will now take the "headings" of the accompanying tables seriatim.

Expectoration.—It is remarkable how those patients who on admission expectorate profusely after the first week or two practically cease to do so and those admitted with scanty and purulent sputum retain it for a longer time. At the sanatorium no expectorants or other drugs are given except in doubtful cases in which the chest is full of coarse moist sounds so as to discern between the transitory and persistent ones.

Cough.—This symptom persists longer than any other and is generally the last to disappear. Until lately almost every patient who had a "troublesome cough" was given syrup of codeine. No doubt this symptom in most cases is a "habit" and will soon disappear if the patient is told to resist the "temptation" to cough and a little moral and assertive persuasion is used on the part of the medical attendant.

Hæmoptysis.—In 17 of the above 35 cases this was present before admission and in only two of them can I find a history of hæmoptysis since admission, and, curiously enough, these were two taking urea. In my experience this is not a very alarming symptom and in only one case do I remember it to be recurrent and persistent. This patient was given the usual drugs, such as ergot, hamamelis, capsules and inhalations of turpentine, adrenalin chloride, and injections of gelatin subcutaneously; none of these appeared to have any permanent effect and the patient did quite as well by absolute rest in bed and liquid diet. Several blood examinations were made and it was observed that there was marked eosinophilia during and after the attacks of hæmoptysis. One is very apt to be surprised in the blood counts of the consumptive, as it is the unexpected that happens. I hope shortly to publish some further observations on this point.

Temperature.—This is always taken by the oral method and for all practical purposes appears to be quite satisfactory. The rectal method is not liked at all, being most disagreeable; the patient will not put up with it for long, and after reading the article on the Comparative Values of the Various Methods of Observing the Temperature by Dr. F. W. Burton-Fanning and Dr. S. Gurney Champion[1] one is inclined to give it up altogether. As a general rule a patient is admitted with an elevated temperature, about from 99·5° F. to 100°, but after a few days' complete rest in bed and the "Liegehalle" it soons settles down and remains about 98·8° or lower. It must not be forgotten that the temperature of phthisis is one of extremes. A low one is quite as indicative of phthisis as a high one and there are plenty of patients with no fever at all. If the temperature be a "swinging" one a "mixed" infection is the cause and these are mostly in the third stage of the disease. Any sudden rise in temperature is mostly due to nervous influence and in women to the menstrual molimen. Pyramidon has been given in cases of a "swinging" temperature above the normal line. The usual dose is five grains in an ounce of chloroform water at 3 P.M. and when the temperature is taken at 6 P.M. it is found to have come down, but not always. It is very seldom, indeed, that any antipyretic is required; on many occasions it has been found that a case with a temperature excursion of 3° (from 97° to 100°) has settled down to a regular line (with an excursion of 1°) when taken out to the "Liegehalle." *One can safely say that the amelioration of symptoms is in the inverse ratio to the amplitude or excursion of the temperature, and the course of treatment adopted should be to contract the daily range of temperature.*

Pulse.—More stress undoubtedly ought to be placed on the frequency, regularity, and tension of the pulse. As the pulse returns more to the normal it coincides more or less with the disappearance of the physical signs and is a better guide to the course of the disease than the temperature.

Anæmia.—I have made over 100 blood examinations and counts and in only about 5 per cent. have I found the hæmoglobin below 85 per cent. In these cases the condition of the mouth and teeth, and consequently that of the stomach, were anything but desirable and this mostly arises from oral sepsis. In several cases it has been noticed that after the extraction of from 12 to 20 teeth the patient has "put on weight" at a most astonishing rate, so the Chinese proverb that most "people dig their graves with their teeth" is not quite true in every respect.

Menstruation is in abeyance in only about 40 per cent. of the cases admitted and is interdependent upon the general condition of the body and when this improves the menses reappear.

Night sweats.—I have never had occasion to prescribe any drugs for the symptom as it disappears before the end of the first week.

One can but conclude from the accompanying tables and the foregoing remarks that the diet is of as paramount importance as any of the active principles of any mixture or drug given. In tuberculosis there is a wasting of subcutaneous fat, but the main feature is wasting of the nitrogenous elements of the muscles. A meat diet supplies a direct physiological want and the materials are "ready-made" for rebuilding the skeletal as well as the cardiac muscle which is also involved. This latter point is shown by the direct improvement of the circulatory condition as the muscular system recovers. All patients, however, should not be given the same amount of food and we can never be quite certain how any given individual will react to a particular kind of food. The diet should be modified to a certain extent for patients with gastric disturbance. With an abundant and mixed diet cod-liver oil is not necessary. The object in view is not to make the patient a "flabby breathless mass of fat," but to turn out a thoroughly solid, robust individual. A gain in weight is by no means everything, as this frequently occurs without an improvement in the pulmonary condition, and when this happens the selection of the diet is of great interest and the supervision and vigilance of the medical attendant are imperative. This latter point is one of the secrets of success in the sanatorium treatment of pulmonary tuberculosis, or, to put it concisely, "the ability to interpretate the individual variations in metabolism."

I should like to take this opportunity of expressing my thanks to the honorary staff for their permission to publish these results and especially to Dr. S. Moritz and Dr. K. Renshaw for their kindly help and advice.

Bowdon.

[1] THE LANCET, March 28th, 1903, p. 856.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

UROTROPIN IN THE PYURIA OF TABES DORSALIS.

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THE following case presents some points of interest. The patient, who was 36 years of age, exhibited the classical symptoms and signs of locomotor ataxia—occasional lightning pains, loss of knee-jerk, muscular incoördination, and vesical troubles. About April, 1899, he first noticed that the bed was wet of a morning, and soon afterwards the urine began to dribble during the day. It gradually commenced to run faster, until after a few months he never passed it at all in a natural manner but suffered from complete incontinence. He was compelled to wear an indiarubber urinal constantly. In the spring of 1900 he resigned his situation and went to live at the seaside. In March, 1901, he consulted me, but not for treatment of the bladder condition, inasmuch as he considered that to be hopeless and incurable. He had, as an out-patient, attended one of the special London hospitals for several years. I persuaded him to take a mixture containing ergot for a time but it proved useless. I then recommended eight grains of urotropin daily but he did not persevere with it. In September, 1901, he contracted influenza but recovered after a few days. The urine was ammoniacal and contained much pus. He was then passing nearly two pints into the urinal during the night and sleep was restless and disturbed. The ignominy of the wretched condition preyed upon his mind and he was morbid, depressed, and hypochondriacal. The vesical weakness in consequence became aggravated. I emphasised the necessity of resuming the urotropin and of taking it regularly for some months, and, irrigation being declined, assured him that the urotropin would greatly benefit him. In February, 1902, he stated that eight grains of urotropin had been taken daily for five months and that he felt much better. There had been no sign of hæmorrhage. The urinal was now practically dry at bedtime; he passed on his own initiative about two pints without pain during the day and the urinal in the early morning contained less than three-quarters of a pint. Moreover, he slept well and was looking out for some employment. One day in January he experienced—for the first time in two years—the desire to micturate. Since then he has learnt to ride a bicycle and he makes use of the machine in his new situation. The urine is free from pus and albumin and has an acid reaction which it retains even after standing for 24 hours. The urinal contains not more than half a pint of urine in the morning and only a few drops at bedtime. I suggested that he should continue the use of the urotropin until the dribbling ceased.

The regular administration of other vesical disinfectants such as salol might have led to equally good results and it seems reasonable to attribute a share of the improvement at least to the asepsis produced by the diurnal exhibition of the drug. The presence of a normal urine within the bladder with the absence of pyuria gave the sphincter an opportunity to recover its tone and the detrusor vesicæ its power. The restoration of physical tone and general mental equilibrium—a result of much exercise in the open air—no doubt assisted and favourably reacted upon the beneficial action of the urotropin. The addition of from one-fiftieth to one-hundredth of a grain of strychnine to the urotropin would probably facilitate the effect. The same combination may be suggested for the chronic vesical catarrh and pyuria of enlarged prostate and of diabetes as well as that of hemiplegia and senile debility.

Clacton-on-Sea.

CASES OF STOKES-ADAMS DISEASE (?).

BY ISAAC CRAWFORD, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.

EIGHT years ago I attended a woman during an attack of pneumonia. She was above medium height, married, of sallow complexion, and very thin. There was nothing about the pneumonia to call for special comment, save that resolution was somewhat delayed.

At the end of the first week of the illness, having been hurriedly summoned, as she was supposed to be dying, I found her pulseless at the wrists and quite unconscious while her breathing was imperceptible. There was a faint, slow flicker to be detected with difficulty in the region of the cardiac apex. Injections of strychnine and digitalin were employed and heat was applied to the extremities and præcordia. She slowly revived, the heart-beats gaining in strength and rhythm until the heart behaved in its customary manner. On inquiry her friends said that the oncoming of unconsciousness was gradual. She had five similar attacks, there being an interval of several days prior to the last which proved fatal. Digitalis was given and curiously enough it was stopped about a couple of days before the last attack. Whether that contributed to the fatal result it is hard to say. In the intervals the heart was normal, no murmur or irregularity being observable. There was no history of any previous similar attacks.

About the same time I attended another patient whose heart behaved in a manner somewhat similar to the above. She was a primipara whom I delivered with instruments under chloroform. There was some hæmorrhage but not enough to be dignified by the name of post-partum hæmorrhage. She then for no obvious cause passed gradually into a state of unconsciousness. Her pulse became slower and weaker and finally could not be felt at the wrists; her breathing could not be perceived; her cheeks became white; her limbs grew cold; and the fingers could not detect any sign of life at the cardiac apex. She lay in bed as motionless as if she were carved out of marble. Similar steps towards restoration were taken as in the previous case but I had to leave her still unconscious. Early in the morning I called again at the house and to my great relief I found her in excellent spirits and condition. She had recovered shortly after my departure.

There are references to the above condition in some of the text-books but nothing clear or explicit. I am unable to offer any explanation of the phenomena now described.

Tredegar, Mon.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ROMFORD UNION INFIRMARY.

A FATAL CASE OF TETANY IN ASSOCIATION WITH DILATATION OF THE SMALL INTESTINE.

(Under the care of Dr. DUDLEY G. GREENFIELD.)

A MARRIED woman, aged 33 years, was admitted into Romford Union Infirmary under the care of Dr. Greenfield on August 29th. She had had three children, the youngest of whom was nine months old. About 12 days before admission she had been seized with vomiting and had been steadily getting worse. She had previously had no serious illnesses but for some weeks she had been badly fed and cared for. The bowels had been relieved twice during this time on the administration of an enema. On admission the patient had a very worn appearance and complained of lack of sleep owing to the vomiting. She had no acute pain at any time. The vomiting was distressing and very frequent. The vomit was distinctly fæcal in odour and in appearance it was very like a characteristic typhoid stool. The abdomen was considerably distended and tympanitic on percussion, the normal areas of dulness being preserved. It moved fairly well on respiration, no pain was caused on palpation, and no tumour could be felt. The abdominal wall was not in the least rigid and no peristalsis was visible. The bowels had been relieved two days previously after an enema and the patient's general condition was fairly good. A soap enema was administered and a

very large evacuation of clay-coloured fæces resulted and about half an hour afterwards the bowels again acted freely. The patient expressed great relief and said that she "felt a different woman." The distension of the abdomen was considerably less. She was given albumin water only by the mouth and plain water when thirsty. Five grains of calomel were given but she vomited shortly after. In the evening she was more comfortable, the vomiting was less, and the bowels were moved slightly after an enema. The tongue was moist, the pulse was good, and the abdomen was only slightly distended.

On August 30th the patient had passed a good night and felt much better as she had not slept for several days. The vomiting was only occasional. The vomit had lost its fæcal odour and was only bilious. There was a good result from an enema, the fæces being yellowish and loose and no longer clay-coloured. Another five grains of calomel were given without result. The abdomen was said by the patient to be of about the natural size. Albumin water was still the only food given and she had also ten grains of salol every four hours. In the evening she had two typical attacks of tetany, involving the hands, the feet, and the face and lasting about half an hour on each occasion, giving the patient much alarm. The marked abatement of symptoms, the disappearance of the fæcal odour from the vomit, the four actions of the bowels, and the approach to normal of the last motion all seemed to negative a diagnosis of intestinal obstruction other than that due to impacted fæces. The possibility of a gastro-intestinal fistula was considered and some disease of the pancreas was suggested by the whitish fæces but nothing could be felt on deep palpation of the abdomen. On the 31st the vomiting had ceased entirely and the bowels acted freely after an enema. The pulse was good, about 90, and the temperature was slightly subnormal. She had another attack of tetany lasting about 40 minutes. On Sept. 1st the patient had slept well after an injection of morphia given for the attack of tetany on the previous evening. There was no return of the vomiting and she took plenty of albumin water and fluid by the mouth. She was also given nutrient enemata of starch, eggs, salt, and milk to eight ounces every six hours, but the bulk had to be reduced owing to a bad tear of the perineum (not recent) and difficulty in retention. The bowels acted when the rectum was washed out with saline solution preparatory to the administration of the nutrient enema. The only adverse symptom at this time was the subnormal temperature, but the pulse was good and the extremities did not feel cold. On the 2nd the bowels were opened after the wash-out of the rectum in the morning. The albumin water was well retained as were also the nutrient enemata. In the evening she became very cold and collapsed, but improved again when some stimulant was administered. On the 3rd the patient was better again. The food given by the mouth was increased and the nutrient enemata were administered only twice daily. She took one and a half pints of peptonised milk, two ounces of pounded beef, some essence of beef, beside one pint of albumin water and retained it all. On the 4th her appearance had improved considerably, her face being much fuller. The pulse was good but the temperature was still slightly subnormal. Slight peristalsis was visible in the morning and in the afternoon the vomiting returned. On the 5th the patient had vomited frequently in the night, small quantities of bilious material being brought up. The bowels were moved several times quite naturally; the fæces were loose but normal in appearance, no blood or mucus being present. Peristalsis was again seen in the morning and her friends were advised that an operation would probably be required. In the afternoon, however, she became rapidly worse and died unexpectedly.

Necropsy.—A partial examination was permitted. On opening the abdomen some very distended coils of small intestine lay in front, matted together by some tough adhesions. These proved to be the upper part of the jejunum, the lower half of the jejunum and the ileum being empty and contracted. The junction of the distended and contracted portions was matted firmly down behind, close to the root of the mesentery. A finger passed down from above easily went through the point of apparent obstruction and that before the positions of the parts were much disturbed. On unravelling the coils no cause of obstruction could be determined. There was no fibrous stricture and no evidence of dragging or strangulation could be demonstrated. There was very slight capillary injection of the lowest end of the distended portion but there was no extravasation of blood, no lymph, or any sign of recent peritonitis. The pancreas was apparently healthy and the peritoneum showed no hæmorrhages or fatty masses. The stomach was not dilated and was free from any sign of ulceration. The rest of the abdominal viscera and the heart were quite normal in appearance.

Remarks.—From the post-mortem examination it is clear that the primary trouble was acute dilatation of the upper part of the small intestine. No obstruction could be discovered although the patient had old peritoneal adhesions and seeing that the bowels were opened well on each day that she was in the infirmary (eight days in all) and that on the last two days the bowels were opened naturally several times, no obstruction was probably present. Was this then a paralytic distension? The occurrence of tetany was very interesting in a case of this sort. It was fortunate that no operative interference was attempted as the utmost that could have been done was to have relieved the distended bowel and any attempt to arrive at the point of apparent obstruction would have been useless and impracticable owing to the dense bands of fibrous tissue. The post-mortem examination proved that the suspicion of pancreatic disease as a cause of these conflicting symptoms was unfounded.

The case came under my care while doing the work of Mr. J. A. Fraser of Romford and I am indebted to him for permission to publish this account.

HERTFORD GENERAL INFIRMARY.

A CASE OF SUPPURATING HYDATID; INFECTIVE ENDOCARDITIS; ANEURYSM OF THE PERONEAL ARTERY.

FOR the notes of the case we are indebted to Dr. Gordon Moir, house surgeon.

The patient, a lad, aged 19 years, was admitted to the Hertford General Infirmary on June 18th with the following history. His occupation was gardening on an estate in Hertfordshire, where he had lived all his life. His family history was very good, but one sister had recently died from phthisis. He had always been perfectly healthy except for typhoid fever which he had had nine years previously. He had never had any venereal disease and there was none in the family. In the beginning of May, 1903, he had a "feverish attack" and was laid up for a day or so, which he soon got over and resumed work. At the end of May whilst going to his work he was seized with sudden pain in the left leg and had to return home; he could hardly walk, the pain was so severe. He returned to work the next day and remained at it for three days, when the pain in his leg became so acute that he stayed at home and kept in bed with the foot raised. It was noticed at this time that there was a swelling in his leg; pulsation was not noticed till a week after its first appearance, when it had become slightly larger. The leg was swollen and painful.

On admission it was noted that the patient was a strong, healthy-looking lad, rather pale about the lips, and his voice was rather quavering. On the left leg, about two and a half inches below the head of the fibula on the postero-external surface, there was a hard, tense swelling of about the size of a fowl's egg. The skin was not adherent or reddened; it was slightly painful. The swelling was deeply situated, not moveable, and elongated. There was a distinct expansile pulsation. On compressing the popliteal artery pulsation was lessened, but there was no decrease in size; on releasing the artery the swelling regained its maximum pulsation in three or four beats. There was loss of pulsation in both anterior and posterior tibial arteries in the foot; the left ankle was somewhat swollen. The left leg measured 11½ inches and the right 10½ inches. The knee-joint was normal and there was no pain on flexion. There were no enlarged glands on the left side, but there were a few in the right groin. On examining his heart the impulse was in the fifth space just internal to the nipple line. Dulness extended to the second costal cartilage and to the right edge of the sternum. There were a loud presystolic bruit and a systolic murmur traceable to the angle of the scapula. On impulse there were an accentuated pulmonary second sound, a loud diastolic bruit in the aortic region, and a faint systolic bruit. The liver was not palpable; dulness did not extend below the margin of the ribs. The spleen was distinctly enlarged, coming down three and a half inches on

deep expiration. It was not tender on palpation. The pulse was regular, of good volume, but rather dicrotic. The urine was of specific gravity 1008 and had no abnormal constituents. The left leg was raised to about 45° on pillows and kept at rest by sand-bags. On June 25th it was noted that the swelling had become more posterior, but its size and pulsation were the same as on admission. On the 28th there had been an intermittent pyrexia running up to 99° or 100° F. since admission. Treatment of the aneurysm was conducted by the application of a Martin elastic bandage applied firmly up to the aneurysm and lightly over it, and ending at the middle of the thigh. This was applied every other day for about half an hour, when it became so painful that it was removed. On July 15th the patient became very anæmic; his pulse was decidedly water-hammer in type. On auscultation the systolic bruit in the aortic region was much more marked. The aneurysm had become much smaller, the pulsation was lessened, and it was situated nearly in the centre of the calf. On August 16th the patient complained of pain in the right hypochondriac region; his temperature had remained normal since July 15th. On August 17th the patient was seized with sudden pain in the epigastrium whilst commencing his dinner. He vomited almost directly afterwards. Urgent dyspnœa then commenced and the patient only obtained relief by sitting up and bending forward till his head rested on the bed. His pulse was 110 and his respirations were 30. He was given brandy. At 4 P.M. his temperature was 95°; the dyspnœa remained the same. He was given strychnine hypodermically and oxygen inhalation. On the 18th he dozed off and on during the night and he died at 3 P.M.

Necropsy.—On dissecting out the swelling in the left leg it was found to be a small saccular aneurysm of the peroneal artery, the deep fascia of the leg being tightly stretched over it. There was one pint of clear yellowish fluid in the left side of the chest and three-quarters of a pint in the right side. Both lungs were œdematous. No infarct was found in the lungs. With regard to the heart, the right ventricle was slightly hypertrophied; the rest of the right side was quite healthy. The left auricle was normal in appearance. There were numerous small vegetations on the mitral valves; the valves were thickened and distorted; the chordæ tendineæ in many places were missing; there was a small patch of ulceration on the left side. The left ventricle was enormously hypertrophied and dilated; the muscle was pale in colour and measured half an inch across. As to the aortic valve, on the right cusp there was a large fungating vegetation of about the size of a sixpenny-piece; on the central cusp there were three small perforations; on the left cusp there was a patch of erosion and there was also erosion on the surface of the aorta corresponding to it. In the left kidney one large infarct was found and there were numerous smaller ones, giving rise to a "flea-bitten" appearance. The spleen was enlarged; its substance was very soft; at the upper end was a large cyst one inch in diameter which on being opened was found to be a suppurative hydatid. The liver was enlarged; in the right lobe were two large hydatid cysts containing daughter cysts and ordinary hydatid fluid. The rest of the viscera were healthy.

Remarks by Dr. MOIR.—The curious points about the case were the absence of all direct symptoms of the hydatid disease, as the enlarged spleen was accounted for clinically by the condition of the heart. During the whole time the patient was under observation he only complained of pain once which was in the epigastrium. Pressure in the splenic area seemed to cause no pain. The course of the case seems to have been, primarily, hydatid disease in his liver and spleen, the latter suppurating at the beginning of May (his "feverish attack"), and from this suppuration infective endocarditis was set up, which accounts for the rest of the symptoms. It was impossible to make a bacteriological examination of the various pathological lesions to see whether these were all due to the same organism.

ACTION FOR THE RECOVERY OF MEDICAL FEES.—At the Cardiff county-court on Sept. 30th Dr. Thomas Wallace of Cardiff sued the late proprietor of a Cardiff hotel for £27 for professional services rendered in 1901. Dr. Wallace had attended the defendant's housekeeper at the request of the defendant who had previously paid him for such attendance. The judge found for the plaintiff for the amount claimed with costs.

Reviews and Notices of Books.

Anleitung zur Durchführung bakteriologischer Untersuchungen für klinische diagnostische und hygienische Zwecke. (Guide to the Performance of Bacteriological Examinations for Clinical Diagnosis and Hygienic Work.) By Dr. LUDWIG KAMEN. Vienna: Josef Safár. 1903. Royal 8vo. Pp. 311, with 12 plates and 118 figures in the text. Price, marks 8.40.

THIS is a useful, if rather voluminous, note-book which outlines the course in practical bacteriology at the Military School in Vienna and is intended for use at the bench. Following a short historical survey which serves as an introduction, the bulk of the book is divided into two nearly equal parts. The first, which comprises 135 pages, is devoted to matters of technique; the second, of 154 pages, deals with the chief specific bacteria considered in relation to the diseases with which they are associated. The first part is fairly full and comprehensive and opens with a short description of the morphology of bacteria in general and their structure, both physical and chemical. Next their growth and reproduction are considered and their biological activities and the end-products of their metabolism are described in a clear and concise manner. In this connexion the author gives an interesting table of the results obtained from acid- and alkali-forming bacteria grown in Petruschky's neutral litmus whey, showing the extent of the reaction in terms of normal alkali and acid respectively—bacillus typhosus, for example, forming from 2 to 3 per cent. of acid, whilst the bacillus pyocyaneus produces from 8 to 9 per cent. of alkali. Another table shows the result of the fermentative action of various micro-organisms upon certain specified compounds. Immunity and cognate subjects such as agglutination and hæmolysis are briefly, but at the same time sufficiently, discussed. Chapters III. and IV. are devoted to a consideration of microscopical optics and the microscope itself, together with accessory apparatus—the author, of course, remaining faithful to the instruments of Zeiss and Richert. The next seven chapters deal with technique proper and review in turn the methods of sterilisation, microscopical methods for the demonstration of bacteria, the artificial cultivation of micro-organisms, the immunisation of animals, and the preparation of toxins.

Many of the methods described and recommended will no doubt appear old-fashioned and out of date to the English or American bacteriologist; for instance, the directions given many years ago by Löffler for the preparation of nutrient broth are closely followed, as will be seen from this passage: "The faintly acid broth should be neutralised by the addition, drop by drop, of a concentrated solution of sodium carbonate, or better still made faintly alkaline"; while the author recommends the use of Unna's steam filter for the rapid filtration of agar. The ordinary methods of cultivation on plates and in tubes are well set out, but the useful "shake" culture is not even referred to. The section dealing with experiments on animals leaves much to be desired; the recommendation of Stronschein's syringe for inoculation purposes, for instance, will hardly meet with universal approval, while the directions for the immunisation of animals are practically valueless. In the illustrative example—that of the immunisation of the guinea-pig against cholera—the rule-of-thumb method given of inoculating the animal every eight or ten days is distinctly less efficacious and less scientific than that which regulates the intervals between the injections by the fluctuations of the "agglutination value" of the serum, but which is not even mentioned.

In the special portion of the book Enteric Fever is treated rather fully, considerable space being taken up by methods for the isolation of the bacillus typhosus, the

most recent of these, that of Drigalski and Conradi, receiving due attention. In this connexion we note that in his description of the preparation of the nutrose-agar medium the author totally disregards the fact that in the filtration of agar a certain amount of the medium is invariably lost, so that the percentage composition of the finished medium as described by him varies considerably from that suggested by Drigalski and Conradi. Fig. 88, too, which represents the L-shaped glass rod employed in spreading the plates, shows the point turned up and rounded off in a manner that would effectually prevent the successful manipulation of the plates. Cholera is also fully dealt with but the other microbial diseases are dismissed very shortly. An appendix is included which contains directions for the bacteriological examination of water, air, soil, and milk. This is certainly the least satisfactory portion of the book, the methods quoted being antiquated and from the point of view of bacteriologists, in this country at least, totally inadequate. 12 plates at the end of the book display some 76 splendid photo-micrographs of pathogenic bacteria, malarial parasites, and anopheletes in various stages.

Hernia, its Etiology, Symptoms, and Treatment. By W. MCADAM ECCLES, M.S. Lond., F.R.C.S. Eng., Assistant Surgeon to St. Bartholomew's Hospital, &c. Second edition. London: Baillière, Tindall, and Cox. 1903. 7*s.* 6*d.* net.

THE average student of medicine knows comparatively little about trusses when he passes his final examination; he can, perhaps, distinguish between a truss for a femoral and one for an inguinal hernia, but to measure a patient accurately for a truss and to be sure that it fits, or if it does not fit to know what is wrong with it, would oftentimes prove too much for him. Though it is fairly easy to apply a truss to an ordinary case of hernia, yet much knowledge and skill are required when any unusual conditions are present. To all medical men who have to deal with such cases this little treatise by Mr. McAdam Eccles should prove very useful. It is elaborately illustrated with representations of herniæ and the forms of truss suited for them. All the chief operations for the radical cure of hernia are also described. An adequate account is given of all the varieties of hernia as well as of the treatment suitable for each. The work contains 100 illustrations, nearly all reproduced from photographs, and these certainly are very good. A very useful chapter is that dealing with Hernia in its Relation to Life Assurance, Accident Assurance, and the Public Services. On the whole, the author thinks that a hernia which is readily reducible and readily controlled by a truss should not constitute a reason for extra rating. Though in no way intended to be an exhaustive treatise on hernia, yet this volume supplies information much needed in practice and not readily obtainable elsewhere.

Die Krankheiten des Kehlkopfes und der Luftröhre, mit Einschluss der Laryngoskopie und Lokal Therapeutischen Technik, für Praktische Aerzte und Studierende (*Diseases of the Larynx and the Trachea, including Laryngoscopy and Local Therapeutic Technique, for Physicians and Students*) By Dr. PHILIPP SCHECH, Professor at the University of Munich. Second thoroughly revised and enlarged edition. With 340 Plates and 89 Illustrations. Leipsic and Vienna: Franz Deuticke. 1903. Price 7 marks.

Professor Schech's previous edition, which has been recognised as a standard work on laryngology, has been most thoroughly revised and the book now includes all the latest German work, though it will be noticed that but little reference is made to literature not written either by Germans or in the German language. The chapter on General Diagnosis and Therapy forms an excellent criterion for the rest of the work. It is not a compilation including all the remedies and methods of treatment at the disposal of the laryngologist but contains a careful description of all those of acknowledged merit. Every disease of the larynx is discussed and, where considered advisable, illustrations are added. The question of diagnosis between diseases difficult to distinguish one from the other, such as tubercle, syphilis, new growth and lupus, is entered into very carefully. If we are unable to say that there is very much that is new, we are merely stating generally the fact that, with the exception of some progress in the treatment of laryngeal tuberculosis and the research into the etiology of paralyses of the laryngeal nerves, especially the recurrent, the science of laryngology is to a certain extent stationary. The various theories of recurrent paralysis are considered and treated in a very lucid manner. As we have already intimated, Professor Schech's work occupies a high position amongst treatises on laryngology and will be found to be of great service both as a work of reference and as a guide for physicians and students.

Die Krankheiten der Oberen Luftwege. Zweiter Theil. *Die Krankheiten des Rachens.* (*Diseases of the Upper Air-Passages.* Second Part: *Diseases of the Naso-Pharynx.*) By Professor Dr. OTTOKAR CHIARI, Principal of the Clinic for Diseases of the Throat and Nose at the Imperial University at Vienna. With 118 Illustrations and 1 Plate. Leipsic and Vienna: Franz Deuticke. 1903. Pp. 260. Price 8 marks.

THE first two chapters of this part of Professor Chiari's work are devoted to the anatomy and physiology of the naso-pharynx. The next discusses the general pathology of this region in relation to interference with its functions, including interference with resonance, the effects of disease on articulation, interference with the ingestion of food in relation to diseases of the pharynx, and the neuroses of the palate, in what the author considers especially the globus hystericus, clonic spasm and ataxic affections of the palate, the remainder of the chapter being devoted to anomalies of secretion and of sensation, interference with the sense of taste, and vaso-motor diseases. Local treatment is described with the greatest attention to detail and is of an essentially practical character, the various remedies required and instruments used being dealt with at considerable length. The remainder of the work is chiefly confined to a discussion of the various diseases, their symptoms and pathology. The great knowledge that Professor Chiari has obtained from his long study of diseases of the upper air-passages makes the section of his work at present under consideration of the greatest value. He does not subdivide the affections of the faucial tonsil with the same minuteness as is customary amongst our French colleagues, but in contra-distinction to this those diseases of the naso-pharynx which do not accompany or follow the exanthemata, such as herpes, aphthæ, and other affections of the mucous membrane, as well as the various lichens and urticarias, are very fully considered, as are also the new growths and their treatment. The work is of the highest order throughout and being the outcome of long experience will prove of great value to all students who are especially interested in naso-pharyngeal surgery. The illustrations, although frequently reproduced from other works, are of the same high standard as the rest of the book.

The Five Nations. By RUDYARD KIPLING. London: Methuen and Co. 1903. Pp. 215. Price 6*s.*

A NEW volume by Mr. Kipling is always a source of pleasurable excitement to the reader who opens it for the first time and this collection contains some of his best work. Many of the poems show the writer's wonderful faculty for land- or sea-scape painting in words. Take, for instance, the poem "White Horses," or "The Sea and the Hills," or "Sussex," or, above all, "Bridge Guard in the Karroo,"

with its wonderful picture of sunset in a mountain-encircled desert.

"Sudden the desert changes,
The raw glare softens and clings,
Till the aching Oudtshoorn ranges
Stand up like the thrones of kings—

Ramparts of slaughter and peril—
Blazing amazing—aglow
'Twixt the sky-line's belting beryl
And the wine-dark flats below.

Royal the pageant closes,
Lit by the last of the sun—
Opal and ash-of-roses,
Cinnamon, umber, and dun."

All who, like so many of our readers, have been in a like country will have it all brought back to them as they read. The poem which naturally appeals to us most from a medical point of view is the "Dirge of Dead Sisters" which is, indeed, a threnody worthy of its subject. Here are two stanzas :—

"Who recalls the noontide and the funerals through the market
(Blanket-hidden bodies, flagless, followed by the flies)?
And the footsore firing-party, and the dust and stench and staleness,
And the faces of the Sisters and the glory in their eyes?

(Bold behind the battle, in the open camp all-hallowed,
Patient, wise, and mirthful in the ringed and reeking town,
These endured unresting till they rested from their labours—
Little wasted bodies, ah, so light to lower down!)"

We are amused to think that Mr. Kipling is acquainted with the works of a remarkable poet who belonged to our own profession—namely, Dr. Thomas Holley Chivers, a passage from whose work, "Eonchs of Ruby" (this is not a misprint), is, surely, embodied in "Files." Not many medical men have been poets of any kind, but Chivers, although he wrote an infinity of verses which were all sound and no sense, occasionally produced a really fine line. But if he obtains immortality it will be from his having been referred to by Kipling and not on account of this sort of thing from "Virginalia" :—

"More coy than the wild goldfinches
When they hunt for the butterfly,
Which the dew of the morning quenches
In the psychical month July,
Like an opaline dove's neck chiming
Cherubic beauty for me
Were her ovaline arms in their rhyming
Of my beautiful Rosalie Lee,
Of my lamblike Rosalie Lee,
Of my heaven-born Rosalie Lee,
Of my beautiful dutiful Rosalie Lee."

Mr. Kipling's "Files" has a strong suggestion of Poe's "Bells," and the above quotation from Chivers shows that Poe derived models as well as amusement from the works of Chivers, which, indeed, he criticised in an essay that is extant. So that there is an hereditary sequence of events if Mr. Kipling has studied the works of Chivers, the unknown medical poet.

LIBRARY TABLE.

Literary Etiquette. By VICTOR G. PLARR, M.A. Oxon., Librarian of the Royal College of Surgeons of England. London: Adlard and Son. 1903.—Mr. Victor Plarr's little pamphlet says a great deal within the compass of its 15 pages. While stating that the old robust piracy of literary property is generally obsolete, he points out that in many matters literary ethics require improvement. In particular Mr. Plarr is interesting on the subject of literary ghosts. "If you employ a hack writer to make, say, a translation for you, come to an agreement with him on paper before he begins his work. ..... A man does not cease to have a literary reputation because you employ him. ..... Never trade upon your employé's modesty, or his belief in your integrity, or his unbusiness-like methods." Is the use of assistants, then, so wide-spread among authors as to require a code for its regulation? The unbusiness-like behaviour of editors comes in for the usual criticism and the one concrete example of editorial villainy requires a word or two of comment. "An editor," says Mr. Plarr, "has no *right* to order an article and then to return it unused after a long lapse of time accompanied by the customary printed formula of rejection." Granted; but how often is this behaviour dictated by kindness? The article is ordered and it is not exactly what is required; it is too long, it is too short, for half a dozen reasons it will not quite suit the needs of the paper. The simplest thing the editor can do is to send it back by return of post with a few words of rejection, explaining that although an article was ordered the one that has been received is of no use. But a kind-hearted editor thinks that perhaps, sooner or later, he may be able to use the article, or some of it, or may have time to revise it himself or to advise the author how to alter it. And so he keeps the article by him until a letter from the author, often a peremptory one—and we do not say that the peremptoriness is unjustifiable—demands from him an account of his stewardship. This is often the explanation of Mr. Plarr's story: these things are not always done out of naked wickedness.

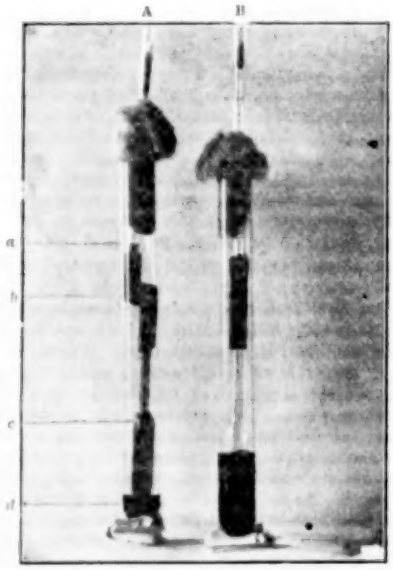
A Handbook of the Diseases of the Eye and their Treatment. By HENRY R. SWANZY, F.R.C.S. Irel. Eighth edition, with Illustrations. London: H. K. Lewis. 1903. Pp. xx. + 678. Post octavo. Price 12*s.* 6*d.*—This work is one of the best of the numerous manuals on ophthalmology that have appeared of late years and the numerous editions that have been published are sufficient evidence of the esteem in which it is held. The descriptions of disease are clear and good, the illustrations are excellent, and the paper and type are unexceptionable. The author has introduced many facts that have either been recently ascertained to be supported on good evidence or which serve to elucidate those which are generally accepted. Most of the additions are duly set forth in the preface; amongst the more important of these are a description of conjunctivitis petrificans and of various forms of keratitis to which special names have lately been applied, a description of the eye symptoms in myasthenia gravis, an account of P. M. Maxwell's operation for shrunken socket, and one of Professor Krönlein's temporary resection of the outer wall of the orbit for the removal of orbital tumours. Many of the chapters have been extended and the work has generally been brought well up to date. The sections on the diseases of, and operations on, the eyelids and upon the diseases of the lacrymal apparatus are particularly complete. For the relief of ptosis many operations have been devised. Mr. Swanzy describes Mules's, Pagenstecher's, Panas's, Everbusch's, and Hugo Wolff's methods, the account in each instance being accompanied by illustrations in the text which enable the steps of the operation readily to be understood.

New Inventions.

A TUBE FOR THE CULTIVATION OF ANAEROBIC ORGANISMS IN FLUID MEDIA.

IN the *Centralblatt für Bakteriologie*, vol. xxvii., p. 74, Professor J. H. Wright of Boston described a simple method of cultivating anaerobic organisms in glucose bouillon by means of an apparatus like that shown in the illustration. It consists of a piece of indiarubber tubing three inches long, uniting below with a glass bulb and above with an ordinary piece of glass tubing. The bouillon, after inoculation, is sucked up to just past the upper limit of the indiarubber, the upper glass tube is then pushed downwards with a little twist so as to cause a double angle in the indiarubber, and a column of liquid freed from the atmosphere is thus obtained for any anaerobic bacteria to grow in it. The present slight modification is in regard to the upper glass tubing, which is made longer and narrowed a little at one point so as to admit a small wool plug at the top. The

whole test-tube can thus, after the usual sterilisation, be kept indefinitely, requiring only a short boiling and cooling just before use. This method has answered admirably and besides the simple construction it has the advantage of doing away with the hydrogen apparatus, of showing any formation of gas in the inner column, and of differentiating a facultative from an obligatory anaerobe in the same specimen. Wright's ingenious plan seems to have escaped attention and my chief purpose in bringing this modification forward is to emphasise its simplicity and utility in growing anaerobic organisms in fluid media.

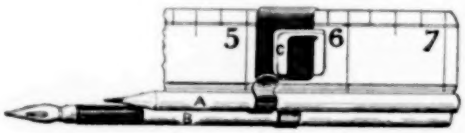


A, The tube after inoculation, and B, before use. *a*, Upper limit of liquid. *b*, Bend in the indiarubber. *c*, Inner column, anaerobic. *d*, Outer column, aerobic.

GNOH LEAN TUCK, M.B., B.C. Cantab.,
Research Student, Emmanuel College, Cambridge.

A PEN AND PENCIL CLIP.

THE accompanying illustration explains itself. It depicts a main clip which embraces a graduated ruler and three smaller clips carrying respectively: (A) a pencil; (B) a penholder; and (C) a piece of indiarubber. The clip is the invention of Mr. J. Clark, F.R.G.S., headmaster of the Boys' Department of the Clay Cross Board School. The idea is that every boy will be able to keep separately for himself his own working utensils and so that a somewhat overlooked cause of infection will be avoided. It is, for example, not an unknown habit among board school boys—and for that matter among the boys of our famous public schools—to chew the end of the pen or pencil.



CLEANLINESS IN "GAS BAGS."

WHEN during the course of the administration of nitrous oxide any "to-and-fro" breathing from the bag is allowed—and such a proceeding is often of advantage—it is obvious that a very thorough cleansing of the interior of the bag is essential if hygienic demands are to be properly observed. The most usual mode of obtaining cleanliness properly is to immerse the bag in hot water and to allow this to flow freely into the interior of the bag through the open vulcanite tap which is detached from the tube leading to the cylinders and, no doubt, the bag can be fairly cleaned in this manner after every administration. A much more efficient cleansing, however, is possible when the bag can be turned inside out. Mr. Vernon Knowles of Reading has contrived a bag of this description and in a recent issue[1] we gave an illustration of his apparatus. The process of turning the bag inside out takes certainly a little extra time, but this is more than compensated by the additional certainty of cleanliness, and the material of the bag is undamaged by boiling. Mr. Knowles's bag was first intended for use with ethyl chloride and similar anæsthetics, but since our notice of it in this capacity it has been adapted to the employment of nitrous oxide. The "reversible gas bags" may be obtained from the Dental Manufacturing Company in Lexington-street, London, W.

A WOOL TIDY.

THIS instrument consists of a serrated scraper or rake for the easy removal of cotton wool from probes, forceps, &c. It is firmly secured to the table by means of screws which pass through slots in the foot-plate but it is readily detachable. The wool is easily removed with one hand only by simply dragging the applicator firmly through one of the clefts with a slight rotatory movement, a difficult feat with the usual metal box which, owing to its unsteadiness, demands the use of both hands. It is made by Messrs. Mayer and Meltzer in two forms, with and without a well which is detachable for sterilising purposes. Although specially designed for aural and nasal work it will be found equally serviceable in dental and other work which requires the use of wads for cleansing and escharotic treatment. When fixed the teeth should point away from the operator.

FIG. 1.

Wool tidy with well.

FIG. 2.

Wool tidy without well.

V. H. WYATT WINGRAVE, M.D. Durh.
Devonshire-street, W.

[1] THE LANCET, August 1st, p. 323.

THE LANCET.

LONDON: SATURDAY, OCTOBER 10, 1903.

The Opening of the Medical Schools: Introductory Addresses.

THIS year the introductory addresses at the opening of the winter session at the various medical schools, both metropolitan and provincial, were of more than usual interest, because they were less reminiscent of the medical pedagogy to which for so many years we have been accustomed. In certain instances the opportunity was taken to impart to the neophyte in medicine salutary admonitions on the necessity for a proper and Hippocratic appreciation of his future responsibilities, and this, we think, is a rightful use of the occasion on which introductory addresses are delivered. Similarly Sir DYCE DUCKWORTH'S address to the students of the Medical Faculty of the University of Liverpool inculcated a very proper spirit. This address we published in full last week. As a whole, however, the addresses, apparently infected with the prevailing epidemic of Imperial expansion, took a more ambitious view of their objective and dealt with matters of national, if not of cosmopolitan, importance. Particularly so was this the case in the instance of the address delivered to the students of King's College Hospital by Sir JOHN A. COCKBURN and of the address delivered to the students of St. Mary's Hospital by Mr. V. WARREN LOW. Sir JOHN COCKBURN in an interesting manner pointed out the analogies between the development of empire and the organic evolution of individuals. Mr. LOW took as his subject the relationship of the military medical service to the civil profession and outlined a scheme for preventing the confusion, mismanagement, overlapping of duties, and general condition of unpreparedness which distinguished all departments of the medical service in the recent war in South Africa. The main principles which were advocated in Mr. LOW'S scheme were as follows: (1) organisation with the Royal Army Medical Corps as a framework; (2) for the medical reserve officer temporary rank equivalent to that of the regular service; (3) annual registration and payment while on duty; (4) graduation according to civil standing; and (5) appointments to definite army corps and if possible to definite units. The experiences of the late war brought to light many anomalies of administration and many personal grievances, especially in the relationship between the regulars and the volunteer civilians. The scheme which Mr. LOW'S personal experience in South Africa has enabled him to indicate deserves the consideration of the proper authorities. It is a clear, well-considered, and suggestive proposal for the organisation of a civilian medical reserve for the military medical services.

At the Yorkshire College, Leeds, Professor SCHÄFER, in eagerly pressing for reforms in our methods of education, touched upon another subject of the first Imperial importance. He congratulated the College on its newly granted charter and on its limitless opportunities for working out its own destiny on new and improved lines unhampered by the fetters of hide-bound traditions. He insisted on the superior advantages of practical work in the laboratories and of practical demonstration in the wards, as compared with the benefits to be derived from the attendance at lectures. The pertinence of this remark is self-evident when we realise that in these days of good text-books certain lectures have lost their *raison d'être* as instruments of education, a point upon which we recently enlarged in a leading article. Professor SCHÄFER strongly advocated the relegation of the study of most of the preliminary scientific subjects to that period of the educational curriculum which is antecedent to joining the medical school. We think that every year this becomes the more usual order of procedure and elementary chemistry, physics, and biology are now more often than not studied at school by those who intend eventually to take up the profession of medicine. A further suggestion on the part of the lecturer was that candidates for a medical diploma or degree should have at least the option of offering themselves for examination in the various subjects separately, as far as possible immediately after the courses in these several subjects were completed. This method, as opposed to that of grouping several subjects together, has probably as much to be said against it as for it—indeed, it lends encouragement to a system of cramming and superficial reading. If Professor SCHÄFER had the appointment of the examiners the plan might work, but the examiners who can distinguish between real knowledge and the appearance of knowledge that is lent by cramming are not numerous. As regards the sequence in which, according to Professor SCHÄFER, the various subjects should be taught in an up-to-date and progressive medical school, such as that of the Yorkshire College aspires to be, we agree with his views; indeed, his scheme represents closely the method and order adopted in our metropolitan schools.

At the Charing Cross Hospital an interesting departure from conventional precedent was initiated by the invitation to Sir CHARLES WYNDHAM to deliver the opening address. The justification of this proceeding will be at once admitted by those who read the abbreviated report of his address which is reproduced in another part of our present issue. Although, to quote his own words, "his operations are now conducted in a theatre which is not strictly of a surgical character," nevertheless from a medical point of view, and by reason of the validity of his diplomas, there was nothing incongruous in this great actor divesting himself of his histrionic mask and addressing himself to a body of young students. Indeed, from his necessarily wide experience of worldly matters it is likely that his advice would carry at least as much weight in the estimation of his audience as would the words of any eminent physician or surgeon who, though occupying a high place in the medical profession, would probably possess a more limited and circumscribed knowledge of human affairs. Sir CHARLES WYNDHAM urged on his audience the necessity of showing moral courage in the conduct of their professional duties; "in this age," he added,

"when the smaller vices are multiplying, each with its attendant nemesis of disease, have the courage to call things by their proper names; if a patient courts death or misery by drink, drugs, or vicious life, tell him so in the plainest terms. Do not disguise the truth by some euphemistic Greek phrase ending in 'itis.'" This advice is perfectly sound. There are cases known to all of us in which the patients may be intimidated into a fitting condition of submissiveness by the very verbosity of the high-sounding nomenclature which Sir CHARLES WYNDHAM deplores, but that is a small exception to the rule that plain speaking is generally the proper course. And plain speaking does not connote blunt rudeness and vulgarity. Our professional relationship with patients requires the exhibition of a quality—namely, tact—which can only be acquired by experience and by those only who have natural gifts for its acquisition. The example which Sir CHARLES WYNDHAM has set in making his introductory address an occasion for appealing to the humorous as well as to the serious instincts of his audience is one which is well worthy of being followed on similar occasions in the future.

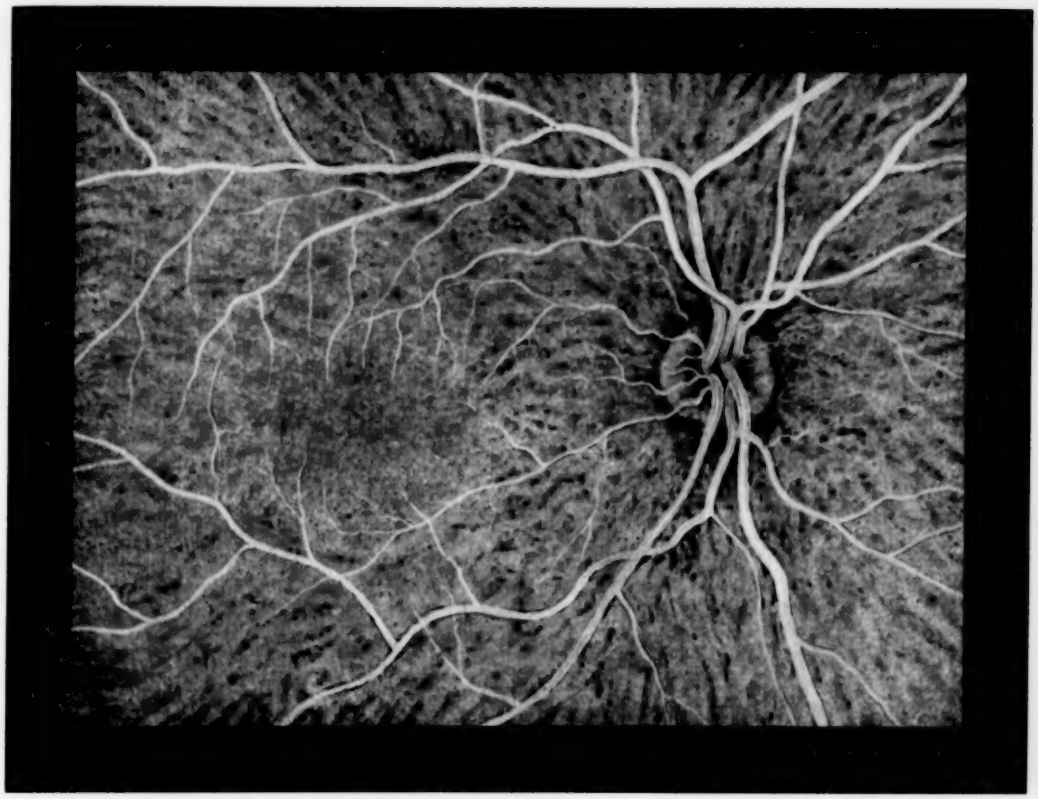
Accident or Disease? A Question in the Working of Compensation Acts.

THE Act dealing with compensation to workmen for accidental injuries suffered in the course of their employment, which came into force some five years ago, was calculated to be of considerable benefit to the labouring classes. This we allowed at the passing of the Act and an experience of its working since has confirmed this view. Certain trades and occupations have risks inseparable from the nature of the work which has to be undertaken and it is only just that the masters should be compelled to adopt every possible precaution for the safety of the men in their employ. A widespread system of insurance enables them to do so without imposing upon themselves, at any rate in most cases and with ordinary circumspection, an undue burden. But although the Act seems to have worked well hitherto there are not wanting indications that it is possible for the law to be subjected to serious attempts at abuse and if this be so amendment must be attempted. It is a curious fact that the classes in which are included operatives and labourers are prone to misuse the laws made for their benefit. They love to apply these to purposes for which they were never intended. Trade unions are a striking example of this statement. Originally they were regarded as illegal combinations, but they obtained legal recognition on the understanding that they were necessary to prevent tyranny on the part of the employers of labour. It is certain that they have done this and have led to the amelioration in many respects of the conditions under which certain trades are carried on, but the trade unions have on occasions been perverted to obstructive tactics with the most pernicious effects on the commerce of the country. The details of the Taff Vale case sufficiently prove the mischief that may be done by a trade union working improperly.

The peril which menaces the benefits conferred by the Workmen's Compensation Act has not yet made much appearance in England but two instances of possible abuse under similar legislation in France have been recently referred to by our Paris correspondent.[1] In both cases an attempt was made to include improperly under the term "accident" an illness or disease contracted by a workman during his employment. In the first instance a worker in a glass factory contracted syphilis through using a blow-pipe which it was alleged had been infected by one of his fellow labourers. He thereupon demanded damages from his employers and brought the matter before the courts. The judge nonsuited the plaintiff on the ground that he had adduced no proof that syphilis had been contracted in the manner alleged, while a further proof of the weakness of the case lay in the fact that his fellow workman was examined medically and showed no trace of syphilis. In the second case a railway porter referred a pulmonary hæmorrhage to the strain of lifting a trunk which was too heavy for him. At the time of the so-called accident he presented no signs of pulmonary tuberculosis but the disease manifested itself within a short period and he accordingly, with the advice of his medical attendant, sued the railway company for damages. The railway company, dreading a case against it which might in the future be used as a precedent, preferred to compromise the matter by paying the plaintiff a sum of money. It seems to us a matter of regret that this course of action was adopted, as it lays the railway company and similar bodies open to claims of this sort in the future, a development which would lead to action on the part of employers of labour of a sort which could not fail to be irksome to the employed classes. Labour agitators would, we think, have no difficulty in inducing the employed to believe that such actions at law as those to which we have alluded are for their benefit. We trust, however, that no attempts in this direction will be made, as disastrous results would be likely to follow. If the workman who claimed compensation from his employers because he had contracted syphilis from a fellow workman had proved successful in his case the employers would have been perfectly justified in discharging every man on their wage-roll who showed signs of syphilis. And as the individual infected with syphilis will often, and naturally, deny ever having had the disease a further step might be expected—namely, refusal of employment to any man having a cutaneous eruption in case it should be of a syphilitic nature. With respect to tuberculosis a similar course of action would be justified if such a symptom as pulmonary hæmorrhage were held to be an accident within the meaning of the Workmen's Compensation Act. Not only would the unfortunate victims of the disease suffer by being discharged from their work but any man or woman who developed a cough would run the risk of dismissal on the plea that "consumption might be developing."

We need not enter into the many questions which have arisen in respect of the measure of the infectivity of tuberculosis; suffice it to say that if due precautions are taken the risk of infection is reduced to a very small one. If an employé is known to be tuberculous it is the duty of the employer to see, as far as possible, that all means are adopted to prevent the sufferer from becoming a danger to

[1] THE LANCET, Sept. 19th, 1903, p. 854.



TO ILLUSTRATE DR. HALE WHITE'S CASE OF DIABETIC INTRAOCULAR LIPÆMIA.

PHOTOGRAPHS, IN NATURAL COLOURS, OF A CASE OF PURPURIC ERUPTION.

TRICHROMATIC NEGATIVES AND BLOCKS BY SANGER-SHEPHERD & CO., 5, 6 & 7 GRAY'S INN PASSAGE, HOLBORN, LONDON, W.C.

his fellows. Instructions should be given both to him and to them and then if the injunctions are persistently or wilfully neglected dismissal of the disobedient would be justified. But an employer is not necessarily supposed to be aware whether those under him are afflicted with syphilis, tuberculosis, or any other constitutional complaint. The symptoms of these diseases and of others which to some extent are communicable by man to man are varied and uncertain, and it would be unjust without careful inquiry into the master's knowledge of the state of affairs that he should be mulcted in damages because one workman might infect another. The Workmen's Compensation Act did not contemplate such a position and no such intercommunication of disease can be regarded as an accident for which compensation is due. It is suggested by our Paris correspondent that lead workers and the employed in similar trades intend to try the question legally whether poisoning as the results of their work can be considered as an "accident" compensation for which must be paid by the masters. We have every sympathy with workers in dangerous trades who fairly expect, and ought to receive, a high rate of remuneration, but to mix up disease with accident as concomitants of labour must lead to confusion and to injustice. The private life of the workman may predispose him to the malignant effects of the poison of syphilis or alcoholism, but if a breakdown in health should occur in such individuals it cannot be regarded as an accident. Still less can a mischance to one of their fellow workmen arising out of a fellow workman's condition be regarded as an accident for which the employer must pay compensation. Where would such a state of things end if once such a theory of "accident" were admitted? Defective social surroundings, speaking in the most general terms, undoubtedly constitute a danger to the health of the workman and may conduce to his breakdown while he is a wage-earner, but such occurrences, though very tragic, cannot be laid at the door of the masters. Certain risks must be taken in all classes of life and it would be equally foolish for a medical practitioner to claim damages from a patient from whom he had contracted an infectious disease, such as scarlet fever, as it would be for a workman in lead or phosphorus to consider lead or phosphorus poisoning as an "accident." The risk of the employment must be considered in the wages and the employés must be made to minimise these risks as much as possible, but the Workmen's Compensation Act was meant to meet cases of genuine accidents.

Quackery and Death.

THE Manchester city coroner, Mr. E. A. GIBSON, recently concluded an inquest in which he investigated with commendable thoroughness the causes responsible for the death of a child. The outline of the facts which were brought to light may be given in very few words, as the story is referred to in detail by our Manchester Correspondent this week. The deceased was taken ill, or was observed by the parents to be ill, on a Saturday. No medical practitioner was summoned but a quack medicine called "Jackson's febrifuge" was administered by the father, because, as he said, it was well known and the neighbours advised him to try it. The child died on the following Monday and the coroner's jury found a verdict of "Death from natural causes." This was strictly correct, for medical evidence showed that the cause of death was broncho-pneumonia and death probably was not accelerated, as certainly it was not retarded, by the use of "Jackson's febrifuge." There is a delicate irony perhaps in recording as a death from "natural" causes the decease of a child left to die with no other assistance in the struggle for life than nature might afford, but there was no evidence which could render JACKSON directly responsible for the tragedy.

We quite recognise that there must be considerable difficulty in bringing home in these cases, which with trifling differences of detail are so common, the grave charge of manslaughter either against the quack medicine vendor, or against the parent who uses fraudulent concoctions upon his luckless children instead of asking the advice of a medical man. In some cases where medical aid is not summoned, the charge of neglecting to procure it, resulting as it does in causing a child unnecessary suffering, may secure the conviction and punishment of the parent, but these prosecutions, as a rule, take place in somewhat different circumstances. Our Manchester Correspondent also reports this week that a father, residing at Manchester, was recently sentenced to imprisonment because, being a disciple of the man DOWIE, he had recourse to prayer, and prayer only, on behalf of his child who was suffering from a broken collar-bone. It can be contended that there is a difference between relying upon a quack's "febrifuge" recommended by a neighbour in a case of pneumonia and trusting to prayer and Providence when a collar-bone is found protruding through the skin. But the distinction is a theoretical rather than a practical one. In each case the child would suffer needless pain. The disciple of DOWIE may appear to most people to have treated his child with the greater callousness as the administrator of the quack potion can contend that in selecting JACKSON and his "febrifuge" he had exercised his right to choose his own medical adviser. Mr. ESTCOURT, the analyst of the city of Manchester, said in his evidence that he had made an analysis of the "febrifuge," and the following were the constituents, with their approximate quantities: chloride of ammonium, 4·0 grains per fluid ounce; chloride of potassium, 2·4; sulphate of potassium, 6·2; sulphate of sodium, 4·0; sugar, 10·4; ipecacuanha, (nearly) 2·0; camphor, (nearly) 1·0; cloves, ginger, liquorice, and probably rhubarb, 9·0; and chloroform, faint trace. The witness further said that the bottle he received in order to make his analysis contained four ounces and that the mixture was of such a complex nature as to render it impossible to estimate accurately the small quantities of some of the constituents present. He found no trace of any poisonous substance save chloroform in the medicine. A statement was made to the coroner by a solicitor representing the compounder of the "febrifuge" to the effect that it contained 14 active ingredients and three inactive. It was suggested that the chloroform would act as a preservative from decomposition and that it was there for that purpose only. The general correctness of the analysis was in no way disputed but JACKSON himself, before the adjournment for the purpose of analysis was made, had

refused to say anything as to its composition beyond describing it as a herbal remedy. A pamphlet was produced in evidence which claimed for the concoction above described that it would cure about 30 specified diseases, including consumption, rheumatism, quinsy, and chicken-pox, or, as the coroner expressed it, "everything on the face of the earth." JACKSON went into the witness-box and showed himself there no less audacious than in his pamphlet. He boasted of selling thousands of gallons yearly, bandied words with the coroner who without mincing matters described the traffic in the "febrifuge" as a common swindle, and alluded to having given death certificates in 150 instances. Can it be a fact that registrars have accepted this man's official notifications of deaths and in such numbers? JACKSON'S qualification for carrying ont he business of a druggist consisted, according to his own evidence, in his having done so before the passing of the Pharmacy Act Amendment Act of 1868. He has therefore had a long career and no doubt a profitable one. Reference has been made to a sale of thousands of gallons; the precise figure given by JACKSON'S advocate showed that it amounted to 87,360 shilling bottles (2184 gallons) during last year.

In considering whether it is right that a traffic of this kind should go on unchecked it should be borne in mind that in the case under consideration the child died and that under medical treatment in all probability the child would have recovered. At all events the chance of recovery would have been afforded. Two questions further may be asked. Ought a parent to be able with impunity to allow his child needlessly to die simply because he administers somebody's cure-all pill or potion? And, secondly, Ought the pill or potion to be sold with impunity to ignorant people by means of pretences with regard to its powers which are provably false? The Manchester city coroner appears to have told the jury candidly with regard to JACKSON that he was an absolutely ignorant man and a quack and that it was perfectly scandalous that he should be allowed to do a business of the kind which he undoubtedly does. His words would refer equally to scores of persons who carry on a like traffic with like impunity, and the coroners who use plain language about such a condition of things do real good to the community.

Annotations.

"Ne quid nimis."

THE RECONSTRUCTED CABINET AND PUBLIC HEALTH.

THE changes which have recently taken place in the Cabinet have not obviously affected the position as regards public health administration, but the fact that Mr. Walter Long is apparently to remain at the Local Government Board is not without significance. The place at present occupied by the Local Government Board, which Sir Michael Foster has termed "the hierarchy of Government departments," is not such as to justify the indefinite retention of a Minister of Mr. Long's ability and record as its Parliamentary head, and were there not important changes in store for that department it might reasonably have been expected that Mr. Long would have been transported to one of those nominally more important posts which carry with them not only a substantially greater emolument but also the coveted title of Secretary of State. The fact that no such promotion has been made lends colour to the belief that the special committee which has been appointed to inquire into the working of certain Government departments, of which the Local Government Board is one, may see its way to recommend that the time has now arrived when the enormous expansion of local government throughout the country calls for a corresponding development in the central health department and for some strengthening of the position which its Parliamentary head occupies in the Cabinet. There are some who think that this development should take the shape of the creation of a Minister of Public Health, but we doubt if those who advocate this have a very clear conception of what is meant by this term or of the difficulties which beset its accomplishment. Public health is a part and parcel of our present system of local government and the first step to take is so to enhance the central department of that great system as to afford it a better chance of being adequately represented in the Cabinet. In our view this step will be likely to make for greater efficiency in the public health administration of this country than would the appointment of an isolated Minister of Health who would preside over a department which would be the youngest in the State and the representative of which, *if any*, in the Cabinet would occupy a relatively inferior position. Moreover, there is at present practically no prospect of the appointment of a Minister of Health with a seat in the Cabinet. If an *addition* is made to the Cabinet it will probably take the shape of a Minister of Commerce. But there is, we believe, a fair prospect of the elevation of the central health department to the dignity of a Secretaryship of State and every effort should be made by local governing bodies throughout the country, quite irrespectively of any political bias, to see that the status of the cause for which they labour is properly represented in the Cabinet. But we are far from contending that the medical department of the Local Government Board can be regarded as receiving at the present time the support or status which must be accorded to it if it is to continue to lead the public health administration of this country. In our view it should undergo very material expansion. It is a somewhat strange anomaly that the medical officership of the Local Government Board, a post which carries with it the duty of advising other Government departments in a manner which intimately concerns the development of preventive measures in the empire as a whole, should be accorded a remuneration smaller than that which is given to the medical officers of the Royal Navy or the Army Medical Department. It is strange, too, that the grant of £2000 per annum for scientific investigation which was, we believe, accorded to the central health department at a date prior to the passing of the Public Health Act of 1875 should still be regarded as adequate. No wonder that in these circumstances the research work done in Germany in matters relating to the public health has of recent years far outstripped the progress made in this country. If the State sets an example such as this it is somewhat difficult to find fault with the tardiness of local administrative bodies. Possibly the Treasury in failing to afford the Local Government Board a more adequate financial support has in mind the fate which in the year 1854 befell the little band of sanitary reformers which was led by the late Sir Edwin Chadwick. Possibly, too, that memory might still militate against the creation of a Ministry of Public Health. But circumstances have altered since Sir Edwin Chadwick's time and now in every sanitary area throughout the country there are at least some representatives of local government who would welcome a more vigorous central administrative action. If, therefore, the time is not yet ripe for a Ministry of Public Health there

is at least need for some expansion of the public health services and a general coördination of its several branches.

THE PISTOLS ACT.

THE first case that has come before a magistrate under the Pistols Act, 1903, was heard by Mr. Curtis Bennett recently as the result of a young man accidentally shooting a tobacconist who was serving him. It was found by the police that the pistol used upon this occasion had been lent to the person carrying it by the owner, a youth under 18 years of age, and that he had bought it from a man trading in the Edgware-road, who had committed two offences under the new Act—in selling without observing the formalities prescribed by the new Act and also in selling at all to a youth under 18 years of age. The seller of the pistol pleaded complete ignorance of the Act which only came into force on August 11th, very shortly before the sale in question took place. He was accordingly bound over to come up for judgment when called upon under the first summons and under the second was fined 5*s.* with 2*s.* costs. The youth who bought the pistol was also summoned and bound over and the person who was carrying it without a licence and whose careless handling of it had injured the tobacconist was fined. These two, also, were ignorant of the provisions of the law. In the columns of THE LANCET we have very frequently called attention to the serious danger to life and limb arising from the unrestricted sale of cheap firearms to irresponsible, ignorant, or ill-intentioned people and it is satisfactory to note that in an instance such as this two out of the three persons involved could be dealt with under the Act which has recently come into force and that the third, owing to the attention called to his conduct, was punished under the previously existing law. The Pistols Act of 1903 has been considerably improved since its first appearance in the shape of a Bill and though it may easily become inoperative if there is any want of system and care in enforcing it, it is quite capable of achieving the results at which its promoters have aimed and of putting an end to a very dangerous trade. The Act makes it unlawful to sell or to let a pistol to anyone not producing a gun or game licence, unless he be entitled to carry a gun without having such licence, or being a householder intends only to use the weapon in his house or curtilage, or is a person who requires it for use abroad. Every person selling or letting a pistol is to enter the transaction in a book with full particulars of the weapon, of the name and address of the purchaser or hirer, and of the gun or game licence produced by him, and this book is to be open to the inspection of any police officer or officer of Inland Revenue. No one under the age of 18 years, except those exempt from penalties for carrying a gun without a licence, is to be allowed to buy, to hire, to use, or to carry a pistol and any such person may be ordered by a magistrate to forfeit any pistol found in his possession. Fines ranging up to £5 may be imposed for the infringement of these provisions but for knowingly selling to a person intoxicated or not of sound mind a penalty of £25 may be inflicted or a term of imprisonment with hard labour not exceeding three months. The Act does not apply to Ireland. It will be seen from this summary that should the police and the Inland Revenue, but particularly the former, exercise vigilance in the matter the selling of revolvers as cheap toys in shops and the promiscuous brandishing of them by boys in the streets should entirely cease. The love-lorn youth with ill-balanced mind who has hitherto experienced no difficulty in shooting his sweetheart and then himself should also find time for reflection during the preliminaries necessary to the fulfilment of his purpose, even if the difficulties put in his way do not altogether prevent him from carrying it out. The more sane and deliberate criminal may not be affected but the use of the pistol by criminals may be said in general to vary in inverse proportion to their sanity. It is to those reckless of the penalty attaching to murder that it has generally proved attractive. It may be suggested that the police should take steps throughout the country in order that no one dealing in cheap pistols should be able to plead ignorance of the law. It is not a plea that will excuse him but it may be taken into account by the bench which tries him. The official printers, who in London are Messrs. Eyre and Spottiswoode, East Harding-street, E.C., sell the Act at ½*d.* a copy, so that even the hooligan of less than 18 years of age may easily possess a copy should he desire to do so.

NEED SMOKE BE "BLACK" TO CONSTITUTE AN OFFENCE?

IN the report of the medical officer of health of the City of London for the nine weeks ending on Sept. 12th, 1903, we are glad to note that the authorities are keeping an active watch over those who have no regard for the purity of the air and its freedom from filthy smoke. A list of offenders is given and the medical officer has recommended that notices should be served upon the owners or occupiers of the premises named to abate the nuisance and to do what is necessary for preventing a recurrence of the evil, "failing which Mr. Solicitor be instructed to take such proceedings as he may consider necessary to enforce your (i.e., the sanitary committee's) orders." In ten other cases in which the names and addresses are also given the evidence obtained is at present insufficient to warrant active interference. Whilst we admit that a good deal has been done towards suppressing the smoke nuisance, yet there is still, we think, plenty of opportunity for other authorities to instruct "Mr. Solicitor to take proceedings" elsewhere. According to our observations the offenders are chiefly occupiers of restaurants and dining-rooms. It is regrettable, we think, that in Section 24 (b) in the Public Health (London) Act the word "black" as applied to offensive smoke is retained. There is abundance of smoke given off by chimneys in London which is not black yet which is an intolerable nuisance. As Dr. W. Collingridge says: "Many complaints are received of smoke nuisances which we are unable at present to deal with by reason of the fact that the smoke emitted—although intolerably objectionable—is not black, but of some less pronounced tint, as yellow or brown. On occasions we get complaints of nuisance from even white smoke." We may add that we have experienced a blue smoke that was very objectionable. We heartily agree therefore with the Westminster City Council and the Corporation of London that the word "black" should be deleted from that section of the Public Health Act dealing with the smoke nuisance.

ADDITIONAL OBSERVATIONS UPON TENT LIFE FOR THE TUBERCULOUS INSANE.

SINCE the last report on tent life for the tuberculous insane by Dr. A. E. Macdonald, medical superintendent of the Manhattan State Hospital for the Insane, a matter which was dealt with in a leading article in THE LANCET of May 2nd last, p. 1249, a further report has been issued on the subject by Dr. A. B. Wright and Dr. C. Floyd Haviland, both resident assistant physicians of the asylum. The report deals with new developments and recent departures in regard to the treatment of the patients. The camp for tuberculous patients has been enlarged and a separate tent has been provided for the accommodation of the more active patients and those suffering from mixed infections. In general the isolation of the tuberculous patients has been made more complete, as in no circumstances are they permitted to mingle with non-tuberculous patients. This enforced

isolation is bearing fruit in the lessened number of cases diagnosed in the wards of the hospital. Encouraged by previous success it was determined to carry on the camp in its entirety during the winter 1902-03 and the same successful results have characterised this effort as marked the camp treatment during the summer months. In addition to the two large tents used previously a third large tent was erected on the present occasion. This contained no beds but was partitioned by screens into a dining room and a living room for such patients as were not confined to bed. For it was found that only the large tents could successfully withstand the severe weather of the winter months and by this new arrangement it was possible to dispense with the small auxiliary tents. Large coal stoves provided ample heating facilities in severe weather but a high indoor temperature was avoided inasmuch as the cool air had, in this treatment, appeared to exert a decided therapeutic effect of its own. The large living tent was left somewhat cooler than the other tents, so that patients in going in and out of doors passed through it and avoided too sudden changes of temperature. Notwithstanding the constant exposure "not a case of ordinary cold or pneumonia developed during the entire winter" and even when the climatic conditions were unfavourable the patients could securely live a constant outdoor life. A high dry altitude was demonstrated to be essential for the successful treatment of pulmonary tuberculosis. The mortality rate of tuberculous patients during the winter 1902-03 was found to be appreciably lower than that of the previous year. Of 61 patients with slight or moderate tuberculous disease 53 gained weight, seven lost weight, and one remained unchanged. The average gain of weight was 15½ pounds per patient. The general principles of treatment and diet were carried out as in the previous season. The statistics, add Dr. Wright and Dr. Haviland, show a decided improvement over those of the preceding year and encourage the further continuance of the methods of treatment adopted.

THE M.D. DEGREE OF BRUSSELS.

ON p. 1037 we publish a communication from Dr. N. Leonard who states very clearly the procedure necessary to obtain the M.D. degree of Brussels and estimates fairly the difficulty of obtaining the degree and the standard of scientific attainment required to cope satisfactorily with the examinations. He concludes his remarks, which will be of value to some of our readers, by saying that the time and trouble spent in the attainment of the degree will be amply repaid in an improvement of social status, and we think that he is right. We also think it particularly unsatisfactory that he should be right, for surely it is an absurd position that the medical man of a country like ours should find it necessary to go to Belgium for a professional hall-mark. We are not intending to open up an endless discussion upon the use of the title of "Doctor." Everyone knows that the title is used in two ways—academically when it implies the medical degree of a recognised university and colloquially when it implies the carrying on of the profession of healing. Everyone also knows that in professional opinion it is wrong for the medical man who does not possess a medical degree to style himself "Doctor," but a practitioner cannot help the fact that his patients will habitually style him "Doctor." The double use of the title has produced an ever-annoying situation. Undoubtedly it is a disadvantage in medical practice that it should be possible to say of any man that he has no right to the title of "Doctor." The public do not understand that only non-possession of a certain university degree is implied, not an inferiority of some sort or other as a practitioner. This mental confusion of the public is particularly hard upon a large number of medical practitioners who hold excellent diplomas, because the work that they have done for these diplomas would as easily as possible have obtained for them a university degree had circumstances placed a university curriculum before them. The holder of the diplomas of the English Conjoint Board has passed tests as stringent as those required for medical degrees in many of the universities and the only reason why such a practitioner does not possess a medical degree is that he was educated in London. He has had the advantage of attending some famous metropolitan school and of seeing clinical practice in an institution where the wealth of material is unrivalled but not being prepared to give up the time necessary for the obtaining of the M.D. degree of the University of London he is without the title of "Doctor." Dr. Leonard recommends that in this plight he should have recourse to Brussels and in the present position of affairs doubtless there are many who will follow his advice. But we may hope that the reconstituted University of London will soon be able to offer to the London student a proper opportunity of obtaining a medical degree. Already the matriculation examination of the University is a fairer introduction to graduation than it used to be and we look forward to the time when a simplification of examination processes, which is not the same thing as a lowering of scientific standards, will lead more London students to try for the medical degree of their own university.

THE KING'S SANATORIUM.

IN *The Health Resort* for October appears a paper entitled "The King's Sanatorium. A Waste of Lives and Money. A Criticism by Chas. Reinhardt, M.D." After a careful perusal of this article we can only express our regret that it has ever appeared in print. It is founded on views which we feel sure will not be supported by the majority of those who have had extended experience in the sanatorium treatment of pulmonary tuberculosis. The very title of the communication is objectionable and its publication may be productive of harm and much misconception with regard to a most excellent and carefully considered scheme. There are many sentences in Dr. Reinhardt's paper to which we take strong exception, but space forbids us from mentioning them all. Dr. Reinhardt starts with the assumption that a "costly, substantial, and not altogether appropriate hospital of 'palatial' character" is to be built. Considering that the plans have not yet been made public we entirely fail to understand how Dr. Reinhardt is aware of the detailed nature of the building which is to be erected; consequently the oft-repeated word "palatial" is meaningless. It would have been in much better taste if such an epithet had been withheld until the plans were known. We feel, moreover, that nothing could be further from the committee's wishes than that a "palace" of any kind should be constructed. Dr. Reinhardt's main contention is that the sanatorium should be built on the chalet, instead of on the pavilion, system. He says: "Every physician who has had the opportunity of comparing the results of treatment upon the chalet and room principles will accept the following statement: Incipient cases are cured in 25 per cent. less time where chalet patients are concerned than is the case where patients occupy rooms." We feel sure that such a statement is not correct and we have derived our information from those who have had practical experience. It is possible that in a suitable climate the chalet or hut system is preferable when only a few patients, say up to 20, have to be dealt with. Above this number, however, the difficulties in administration and nursing are so great that the advantages of the huts are far over-shadowed by the discomforts inseparable from a large number of chalets scattered over a considerable area of ground, at any rate in this country. Dr. Reinhardt attempts

to prove that, owing to the King's advisers not having adopted the chalet system, by the time that the "Haslemere Palace" will be ready 7800 persons might have been saved from suffering and their lives prolonged. The method of arriving at these figures is singular. Instead of erecting a sanatorium for 100 patients as is proposed he maintains that ten sanatoriums, each capable of holding 100 patients, could have been built in different parts of the country for the same sum as that which it is proposed to spend on a single sanatorium. We greatly doubt whether these figures will bear investigation, considering that the cost of the sites, water-supplies, and building of these ten separate institutions is included. We trust that we have said sufficient to indicate the unpractical and unscientific nature of Dr. Reinhardt's paper and to counteract the very false impressions to which it may give rise.

CEREBELLAR TUMOURS AND THEIR TREATMENT BY OPERATION.

IN a recent annotation[1] on the subject of brain surgery it was stated, on the authority of cases collected and observations made by Professor M. Allen Starr, that tumours of the cerebellum were rarely accessible to surgical operation. In the *American Journal of the Medical Sciences* for September Dr. W. H. Hudson records two cases of operation for cerebellar tumour, in both of which the tumours were found in the right lobe of the cerebellum and recovery followed operation, though one patient died unexpectedly from an intercurrent disease. The first case was that of a girl, aged nine and a half years, who in the summer of 1895 developed headache, vertigo, and attacks of vomiting, and from being a bright and lively girl became inactive and disposed to be in bed. After some time there followed symptoms of staggering gait and failing eyesight and the diagnosis of cerebral tumour was made. The pupils were widely dilated and did not react to light. There was paresis of the right facial nerve. The muscles of the neck were stiffened and the head was slightly retracted. The mother of the patient stated that when the child awoke in the morning "her head was drawn far back and that it took several hours of hot applications and rubbing before she could straighten her neck." Pain was elicited by firm pressure over the right cerebellar fossa, both knee-jerks were absent, the grasp of the left hand was much weaker than that of the right, and the left leg was also weaker than its fellow. The patient could not walk without assistance and if unsupported would stagger and fall towards her left. Ophthalmoscopic examination showed intense neuritis in both eyes. She eventually grew more feeble and emaciated and it was decided that an operation should be undertaken. This was performed on June 15th, 1896. On opening the skull in the region of the right lobe of the cerebellum the dura mater bulged out tensely "like a well-inflated bicycle tyre." On opening it a tumour was discovered superficially forming a mass "half as large as an English walnut," and this was excised together with a small portion of brain substance which protruded around it. The basal part of the tumour was thought to have infiltrated the brain substance and as much of it was removed as seemed proper. The patient recovered from the operation, she grew cheerful and happy, but weakness and incoördination of movement still persisted. A hernia cerebri gradually developed after the operation and attained the size of half an apple. A second operation was decided on as signs of a cystic accumulation of fluid (or blood) in the brain manifested themselves. At this operation a hæmorrhagic cyst was found and evacuated, its location being deep within the right cerebellar lobe. The cyst had been growing unsuspected at first and had destroyed most of the right lobe and adjacent parts of the cerebellum. She made an uneventful recovery after this and four months later was enjoying excellent health. She now walked well, showing very few defects of coördination, and eight months later was shown at a medical meeting at which time she was still in a good condition of health. The optic neuritis had, however, gone on to optic atrophy some time previously and she was now quite blind. The second case was that of a man, aged 29 years, an athlete. At 12 years of age he had been struck by a stone from a sling above and just behind the right ear. The scalp was cut to the bone but at the time the bone was considered uninjured and nothing further was thought about the accident. A few years later he began to suffer from headaches and also from "a peculiar feeling in the [right side of the] head but this feeling was not described as pain." He developed diplopia and a staggering gait and began to suffer from attacks of vomiting. Failure of vision gradually followed and epileptiform attacks supervened. A striking symptom in such attacks was the turning of the entire body, especially the head and shoulders, to the right (screwing movement). He was unable to stand up or to walk. The mental condition was normal. The symptoms, which also included double optic neuritis, tenderness to pressure over the right occipital lobe, and paralysis of the right external rectus muscle and seventh nerve, indicated that there was a growth in the right cerebellar lobe. An operation was performed and on opening the skull and cutting open the tense dura mater a deep-seated tumour was found by palpation. It was estimated to be three-fourths of an inch below the surface of the brain and of solid consistence. The tumour was removed by enucleation with the finger and was of about the size of a hen's egg. Practically the entire right lobe of the cerebellum had been destroyed by the growth. The patient rallied after a period of temporary collapse of respiration. On the third day after the operation he appeared to be in a remarkably good condition, his headache was gone, his eyesight was improving, and the wound was healing without hernia cerebri. Shortly afterwards, however, while continuing to improve as regards his cerebral symptoms, he contracted a severe form of diarrhœa with vomiting from which he died on the eleventh day after operation. The tumour was found to be a tuberculous one. Dr. Hudson points out that in both cases the tumours were well placed for surgical operation and advises that this should be resorted to in cases of cerebellar tumour, since a fatal issue is otherwise inevitable.

[1] THE LANCET, August 15th, 1903, p. 485.

SEA WATER FOR STREET WATERING.

SOME years ago the municipal authorities at Hastings tried the experiment of employing sea water for watering the streets and flushing the sewers and their example was soon followed by the local authorities of a number of other towns on the coast. The wastefulness, not to say folly, of using for such purposes water that had at considerable labour and expense been filtered to the highest attainable degree of purity seemed obvious and though, of course, it involved the installation of a separate system of pumping station, mains, and hydrants, the fact that the supply was inexhaustible and itself cost absolutely nothing was so evident that it was strange that this source had been neglected so long. The sanitary and economic results seemed more than to justify the innovation, for, to say nothing of its slightly antiseptic action, the hygroscopic property of the salt caused the effects of each watering to last for a much longer time, and the surface of the roadway was believed by some to be more compact and cohesive, than when fresh water was employed. Besides these retrenchments the new system presented a direct source of revenue in the demand by many private householders for a salt-water service

to their bath-rooms so that they might enjoy the luxury of sea bathing at home. But a few years' experience has unfortunately brought about no small disillusionment; the owners of carriages complain of the destructive action of the salt mud on the varnish and paint and the tradesmen complain of the injury inflicted on goods of all kinds by the salt dust and its subsequent deliquescence. Lastly, the users themselves, the local authorities and their private customers, have discovered that the salt water exerts such a corrosive and generally destructive action on metal pipes and fittings that the number of persons contracting for a domestic supply has fallen from 200 to two and the leakage from the joints of the street mains has caused the deaths of the trees planted in the best streets and promenades, so that the engineer to the corporation that had been the pioneer in the movement finds himself compelled, in an exhaustive report of its experience, to admit that the system has proved a complete failure.

HORSE DUNG IN THE STREETS.

THE prompt removal of horse dung is of the greatest service in promoting the cleanliness of the streets, but not even the most diligent scavenging can protect the surface of the roadway from a certain amount of fouling. Dr. J. A. Calantarients of Scarborough thinks that the difficulty may be solved by catching the droppings before they fall to the ground and for this purpose he has devised a collecting shoot and receiver to be attached beneath the front of the vehicle to which the horse is harnessed. This contrivance is minutely described by him at p. 1050 of our present issue and his opinion that it is not very obtrusive or ugly is fully borne out by a photograph which he has sent to us, showing an open four-wheeled carriage fitted up as he suggests and with a horse in the shafts. If in practice it carries out all that is claimed for it and horse-owners could be induced to make use of it the expense of scavenging no doubt would be greatly reduced and the public would be benefited in many ways.

SUBPARIETAL INJURIES OF THE KIDNEY.

THE *Boston Medical and Surgical Journal* of July 9th and 16th contains an important paper on Subparietal Injuries of the Kidney, by Dr. Francis S. Watson. It is based upon six cases observed by him and on 660 previously published cases. Laceration or serious injury of the kidney may be produced by muscular action and sometimes by apparently inadequate force. For example, a man sprang backwards and felt a violent pain in the left renal region. At the first micturition afterwards hæmaturia appeared and it persisted for four days. A perinephritic abscess followed. In another case a man in lifting a woman across a bed felt severe pain in the loin. Hæmaturia followed and persisted for three weeks. In a third case a man ruptured his kidney with fatal result in the muscular effort of delivering a blow in boxing. 20 cases have been recorded of laceration of the kidney from blows on the front of the abdomen. Abdominal symptoms may appear immediately after the injury or as late as the second day. Tumour of the loin was observed in 111 out of 486 uncomplicated cases. In 39 of them the tumour was due to a perirenal extravasation of blood, in four to hæmatonephrosis, in 28 to hydronephrosis, in 38 to perinephritic abscess, and in two to pyonephrosis. According to Küster laceration of the kidney after non-penetrating wounds is explained by hydraulic pressure acting through the full vessels and pelvis and causing the organ to burst along lines radiating for the most part from the hilum towards the point of maximum impact of the lower ribs. In one case Dr. Watson sutured the renal wound, an operation which appears to have been performed previously in only six cases. The patient was a man who fell on his back while stepping off his cart. There were great pain at the seat of injury and profuse hæmaturia which continued in somewhat less degree for four days. On the night of the fourth day the hæmaturia suddenly ceased and a tumour developed in the loin and increased rapidly. An hour later the kidney was exposed in the loin. It was more than twice its normal size, dark purple in colour, and surrounded with blood. The pelvis was enormously distended by clots. The fibrous capsule was not torn. There was a large laceration of the kidney from which protruded beneath the capsule a clot which had dissected the latter from the kidney over nearly the whole of the posterior surface. The capsule was incised and the clot was expressed through the wound by pressure upon the distended pelvis. The kidney at once resumed its normal size and colour. No wound of the pelvis was found. The renal wound was closed with seven catgut sutures and hæmorrhage was completely arrested. A fistula formed after the wound in the loin had been closed for five or six days. Two months later the kidney was exposed through the old incision. Its anterior surface was adherent to the overlying peritoneum. The fistula led to a sac of about the size of a hen's egg on the outer and posterior surface of the kidney. This sac was incised. No communication could be established between its interior and that of the kidney. Part of its walls was excised and drainage was effected through the lumbar incision. The patient rapidly recovered but the fistula had not closed when he was last heard from, two months after the second operation. In six of the seven recorded cases of renal suture the operation was quite successful. In the unsuccessful case the patient made a good recovery from the operation but secondary nephrectomy was performed later with a fatal result. In all the cases suture of the renal wound immediately arrested the hæmorrhage.

BABY SHOWS.

IN THE LANCET of June 20th, 1903, p. 1753, we drew attention to the mischievous effects of baby shows held under the conditions which usually obtain and took exception to the standard of infant excellence thereby encouraged and to the method of awarding prizes to the babies who manifested the greatest degrees of obesity and the heaviest weights in the scales. We pointed out that in the case of infants mere weight was no test of physiological excellence and that high degrees of obesity were of pathological significance and often the results of unsound methods of feeding. We further pointed out that baby shows if properly conducted might be made valuable instruments for educating the public in the best methods of rearing babies and of securing their normal physical development. The necessity for some practical means of educating the public in these respects is abundantly testified by the alarming and progressive fall in the birth-rate and by the huge annual mortality among infants under one year of age. No subsequent measure can compensate for the constitutional disabilities which are engendered by a neglected or mismanaged infancy; no medical or surgical skill can in after years correct the stunted growth and bony deformities which are the direct outcome of injudicious feeding in infancy and of the neglect of ordinary precaution. It is, therefore, with gratification that we notice that at a baby show recently held at the Murphy Memorial Hall, Southwark, most of the prizes were given to breast-fed infants. Another step in the right direction was that evidence of rickets was considered a disqualification. We may, perhaps, take credit to ourselves that our recent remarks in THE LANCET, which were widely reproduced in the lay press, have conduced to this reform and in the hope that it may be fruitful of further reform we would suggest that some of the following points should be taken into consideration in awarding

prizes at subsequent baby shows: that as an indication of health the general condition of development and the firmness and elasticity of the tissues should be taken into consideration and not the gross weight of the infant; that the condition of the skin, the muscles, the bones, and the nervous system should be examined and that absence of the stigmata of degeneration, sweating, pot-belly, mouth-breathing, and snuffles, should be considered as points in the competitor's favour. Marks should also be given for evidence of care and attention with regard to clothing and cleanliness. Since perhaps the best test of health in infancy is a regular and steady increase in weight week by week marks might be awarded for the best record in this respect and mothers should be encouraged to take an interest in, and to understand the importance of, a steady normal increment in weight, as opposed to the disadvantages of the abnormal and pathological deposition of fat.

AMBULANCE INSTRUCTION AT MINES.

A MEETING of the North of England Institute of Mining and Mechanical Engineers was held at Keswick on June 10th and in the course of the proceedings a paper on Ambulance Work at Mines was read by Mr. William Leck. This gentleman, who is an inspector of mines, commenced by giving an outline of the work and methods of the St. John Ambulance Association. He said that although there did not appear to be any close connexion between ambulance instruction and the subjects which an institute of mechanical and mining engineers might be expected to take into consideration, yet statistics showed that amongst miners there was a great necessity for ambulance knowledge, as in the year 1901 the inspectors of mines received reports of 1223 deaths at mines and quarries and of 5326 persons injured. The St. John Ambulance Association undertakes the formation of "centres" throughout the country and the Cumberland Mines and Quarries Centre was formed in 1895 by the late Mr. J. L. Hedley, an inspector of mines, as the result of a conference with the mine owners of the county. Mr. Leck then gave some details relative to it. Lord Lonsdale became the president, Mr. Hedley the chairman, and Mr. Leck himself the secretary. The reading of the paper resulted in a discussion which presented some points of interest. Mr. M. H. Habershon of Sheffield suggested that the training of suitable men in the use of apparatus for breathing in noxious atmospheres might be undertaken by such an organisation as the one in Cumberland. He said that with the most recent form of the Giersberg apparatus selected men could breathe for two hours and do light work without discomfort after being properly trained. Dr. Thomas Oliver of Newcastle-upon-Tyne recommended that in the ambulance classes instruction should be given in the treatment of persons overcome by noxious gases or apparently killed by electricity.

LUNACY IN AUSTRALIA.

A BRIEF account of lunacy in Australia, with special reference to New South Wales, was recently published in THE LANCET. The report on lunacy in Queensland, which has just been issued officially, states that on Dec. 31st, 1902, there were 1813 patients under care in the various hospitals and reception houses for the insane in Queensland. During the year the number of patients rose from 1752 to 1813, an increase which is very slightly in excess of the average annual increment. Calculated on the estimated population of Queensland on Dec. 31st, 1902, there were 35·2 persons who were insane for every 10,000 of the general population. The corresponding ratios for the other States were: New South Wales 32·5, Victoria 37·3, South Australia 26·7, and New Zealand 33·4. The number of patients admitted to all institutions in Queensland during the year was 339, comprising 204 males and 135 females. "It is satisfactory to record," says the report, "that the admissions for the last two years have been almost stationary." Hereditary tendency to insanity and alcoholic intemperance were among the chief causes of insanity in the admissions. "The worries and anxieties of the drought did not, as might have been expected, largely increase the admissions." The number of patients discharged as recovered during the year amounted to 131, or 7·3 per cent. of the average number resident. The deaths during the year amounted to 94, or 5·26 per cent. as calculated on the same basis. Of the deaths 21 were due to diseases of the brain and nervous system, 11 to chronic renal disease, 19 to inflammation of the lungs, 21 to pulmonary tuberculosis, and the rest to other causes. Nine of the patients who died from tuberculosis were suffering from the disease on admission to the hospitals. The total cost of the institutions for the year was £50,885 16s., an increase of £4304 over the cost for the previous year. This extra expenditure was entirely due to the drought, with the consequent rise in the price of foodstuffs and the failure of the asylum-grown crops.

THE VENTILATION OF THE HOUSE OF COMMONS.

MUCH time and thought have been devoted to the subject of the ventilation of the House of Commons and it has been generally supposed among sanitary engineers that the method adopted left little to be desired. The "Mother of Parliaments" is, however, as regards her domestic affairs rather a fidgety old lady and in consequence a select committee was last year appointed to investigate the condition of the arrangements for supplying our legislators with the fresh air necessary to sustain them during their arduous exertions. This committee, which consisted of Mr. Akers-Douglas, Mr. Dillon, Dr. R. Farquharson, Sir Michael Foster, Mr. Goddard, Mr. Penn, and Sir John Batty Tuke, met ten times between April and August, 1902, under the presidency of Mr. Akers-Douglas without coming to any definite conclusion. On June 17th, 1903, the committee was re-appointed with Mr. Victor Cavendish and Mr. A. H. Smith in place of Mr. Akers-Douglas and Mr. Penn, and four additional meetings were held with Sir Michael Foster as chairman. The results of these labours are now made public in a couple of reports. Evidence was first heard in regard to the existing mechanism which, as described by Mr. Edward G. Rivers, engineer and surveyor to His Majesty's Office of Works, is as follows. Air taken in on the river front and in certain courtyards is washed by a spray of water and passed through a layer of scrim cloth to remove solid particles. After being heated by steam batteries it enters the chamber through grids under the matting of the gangways and through panels at the ends of the hall. In foggy weather the air is passed through six inches of cotton wool and in summer it can be cooled by blocks of ice placed in the air way. The vitiated air is removed from the upper part of the chamber and passes to an upcast in the Victoria Tower. A thorough examination of the air supplied was made. It was found to contain, with half the seats in the chamber occupied, about 5 parts per 10,000 of carbonic acid and to have a mean temperature of 62° F., with a humidity of from 60 to 72 per cent., while Dr. Graham Smith reported the presence of micro-organisms to the extent of six per litre, no infectious diseases being represented. With the House ordinarily full the amount of fresh air entering was more than 50 cubic feet per minute per head. Altogether, as the committee declares, the air as regards purity "may be said to far exceed that found in many such buildings." Unfortunately, however, "this

conclusion, obtained by means of objective tests, is not confirmed by the subjective test of the Members' own feelings." The following recommendations are therefore made: (1) that electrical fans should be substituted for the exhaust furnaces; (2) that the air inlet should be simplified and properly cleaned; (3) that wet screens should replace the water spray; (4) that a more powerful in-take fan should be provided; (5) that the introduction of air under the seats should be tried; (6) that the matting should be removed from the floor of the chamber every day; (7) that there should be frequent general cleaning under the supervision of one person; (8) that a sanitary officer of recognised scientific knowledge and experience should be appointed specially to watch the ventilation; and (9) that inquiries into problems connected with ventilation should be instituted. It will be seen that these recommendations amount to very little in the way of novelty but this is because there is not much room for improvement. The passage of the entering air through matting which is being continually soiled by the boots of Members is certainly objectionable and alteration in this respect was called for. Members will be relieved to learn that they are not being slowly poisoned while assisting in the deliberations of their august House and will be no doubt easily reconciled to the expenditure (over £300 for the fees of witnesses alone) which was incurred in setting their minds at ease.

SOME INTERESTING FACTS IN THE ANNUAL REPORT OF THE COMMISSIONERS OF HIS MAJESTY'S CUSTOMS.

IT is obvious that to a certain extent the annual reports of His Majesty's Customs officers must afford interesting information not only as to the nation's prosperity but as to its moral trend also. For example, the reports show whether an increase or a decrease is taking place as regards the the consumption of alcoholic liquors, of certain taxed foods, and of tobacco. It is thus possible to gather from their pages how far the nation shows in certain directions moral advancement or moral back-sliding. In the report, for instance, recently issued for the year ended March 31st, 1903, there are some interesting fluctuations to be observed in regard to the clearances of alcoholic liquors. The clearance of foreign spirits increased from 8,981,880 gallons in 1901-02 to 9,785,976 gallons in 1902-03, or 9 per cent. It is true that the quantity used for "methylating" has risen enormously on account of the great reduction in the price of foreign spirits, but broadly while a little over 1,000,000 gallons were cleared for "methylating" over 8,000,000 gallons were taken for other purposes. Rum and imitation rum showed an increase of £18,062 this year (0·8 per cent.) and "had it not been for the comparative mildness of the winter the increase," the Commissioners think, "would in all probability have been greater, for prices have been low owing to over-production and to the cheapness of sugar." "Fluctuations in the consumption of rum are difficult to explain," they add; but is it not a fact that rum is used for "blending" purposes? The duty received from brandy showed an increase of one half per cent. and the Commissioners remark that the consumption of brandy is not so great as it was a few years ago, the decline being mainly attributable to the greater favour extended to whisky. There is a decrease in the amount of brandy cleared in casks and, in spite of an extra duty of 1s. per gallon, the increase first alluded to has been due to clearances of brandy in bottle. There has been a great demand for foreign plain spirit and to such an extent as to create considerable competition with British spirits. "Blending" or the pernicious practice of substitutes may possibly account for this increased demand. The consumption of wine has decidedly increased since 1900 and 1901—an "improvement" attributed to the cessation of the war. The stronger wines in cask are chiefly responsible for the increase but lighter wines in cask and sparkling wines in bottles also show an advance. The lighter still wines imported in bottles have diminished, a falling off that has been more marked since the imposition of the extra duty of 1s. per gallon on still wine imported in bottles. The greater part of the increase in clearances of heavy wine was in connexion with wines from Portugal. Tobacco shows an increase of 17·8 per cent., which, however, is not wholly due to consumption, for the clearances of the previous year were considerably reduced in anticipation of a rise in duties by forestalments made at the end of the year 1901. It is probable, however, that the normal rate of increase during past years has been maintained in regard to tobacco. Chicory shows practically no change in the quantity cleared; cocoa shows a decrease of 11·5 per cent., chiefly in connexion with raw cocoa and the demands made previously for this article during the war. Coffee shows an increase, while tea remains at much the same figure as last year—that is, the net quantities of duty-paid tea were no less than 254,000,000 pounds. It is to be wished that the Government could exercise as much vigilance over the quality and description of the imported foods and beverages of the nation as it does in collecting every penny that is levied upon them.

PHOTOGRAPHS IN NATURAL COLOURS OF PATHOLOGICAL SUBJECTS.

WE publish this week a coloured supplement in illustration of Dr. W. Hale White's case of diabetic intraocular lipæmia and on the same plate will be seen two photographs in natural colours of a case of purpuric eruption. An account of the case was read before the Dermatological Society of London by Dr. W. Ewart and has been reprinted in the *British Journal of Dermatology*. The patient was a man, aged 30 years, of regular habits and healthy antecedents. He was seized on Dec. 24th, 1902, with sore-throat, trembling, and chilliness though without definite rigor. Two days later he took to his bed and on the 28th the sore-throat disappeared but the left side of his face was swollen. He was admitted to St. George's Hospital on Dec. 30th suffering from typical facial erysipelas. Full doses of perchloride of iron were ordered but as no improvement took place an alkaline mixture was substituted and frequent doses of quinine were given. Under this treatment the patient improved rapidly, the temperature falling to 99° F. on Jan. 3rd and never rising again to any great height. On the evening of the 3rd the first purpuric symptoms were noticed. He had then had 20 grains of quinine and the total amount taken when it was stopped on Jan. 5th was 40 grains. The eruption consisted of small dark purple patches with raised, pink, and intensely tender areolæ. The earliest sites to be attacked were the lower extremities but on the second day the eruption had crept up on to the trunk. Much larger patches were soon formed, partly by coalescence of smaller ones, and the eruption spread on to the back of the thorax and the outer aspects of the upper arms. There was also a patch on the occipital region and there was chemosis of the conjunctiva with subsequent flow of blood-stained tears. The characteristics of the rash were: (1) its occurrence in circular patches; (2) the raised and extremely tender, pink areola; (3) the gradual disappearance of the purple centre which became lighter than the periphery; (4) the occurrence after a few days of considerable œdema of the conjunctivæ, the arms, the legs, the back, and the thighs; (5) the obvious localisation at the points of pressure; and (6) the formation of bullæ which necrosed and left superficial ulcers. As regards the causation of the rash considerable interest was attached to it owing

to the fact that the patient had been taking large doses of quinine. It was at first impossible to determine whether the purpura was the result of quinine intoxication or was connected with the erysipelas but later the patient, who had nearly recovered, took more large doses of quinine with no recurrence of the eruption. The photographs in colours, which we reproduce, were taken by Messrs. Sanger, Shepherd, and Co., by certain improved appliances recently introduced by them, and we are informed by Dr. Ewart that they are excellent; we are also informed that several members of the medical profession have now applied the process successfully to their work and that the appliances for colour photography have been added to the laboratory of one of the metropolitan hospitals. A year ago the process employed by Messrs. Sanger, Shepherd, and Co. was successfully applied to the photo-micrography of stained bacteria. A considerable advantage is gained in lantern slides (three and a quarter inches in diameter) made by this method directly through the microscope, the colours of the stained bacteria being rendered correctly. The brilliancy and sharpness of the image are even greater than when actually viewed through the eyepiece of the microscope and when the eyepiece is inserted in the lantern and focussed upon the screen the enlargement of detail possible is, of course, very great.

SOUTH AFRICAN SANATORIUMS FOR THE TREATMENT OF CONSUMPTIVES.

WE have received the particulars of a scheme initiated by the directors of a company bearing the name "Cradock Sanatorium and Thermal Baths" with the object of establishing sanatoriums for consumptives in South Africa. There is no need for us to comment on the advantages which the climate of South Africa offers for the treatment of tuberculosis; they are too well known. Owing to several circumstances it has been found extremely difficult, if not impossible, to form charitable institutions for the relief of necessitous patients in suitable districts in South Africa. A company, however, has been floated to form a hydropathic establishment and sanatorium at Cradock, where there exist a number of mineral and warm sulphur springs. The directors also propose to form a separate section of the company for the purpose of building and equipping a sanatorium solely for the employment of the "open-air" method of treatment. It is proposed to solicit the required capital from the public and to guarantee interest at the rate of 3 per cent. per annum. Up to this point it might well be considered that the proposal is purely a financial one. It has, however (and this is the reason that we wish to draw attention to the scheme), a philanthropic side. A careful estimate has been made of the probable revenue and expenditure and it is estimated that out of the income received from paying patients it will be possible to receive, and to give all the benefits of the sanatorium to, a certain number of cases gratuitously. Thus the institution will not only be self-supporting but will also be doing a charitable work in the care and treatment of poor patients. The whole scheme is a very ambitious one. Whilst proposing to start with buildings capable of accommodating 40 patients, it is intended that similar sanatoriums may be erected in various districts of South Africa especially adapted by climatic and other conditions to the treatment of tuberculosis. It is hoped that patients will thus reap the benefit of constant change of air and scenery, since a series of sanatoriums will enable them to be transferred from one place to another should indications point to the desirability of a move. We feel confident that such a scheme as we have just outlined is well worthy of support. The position of many patients who proceed to South Africa on account of being victims to tuberculosis is a deplorable one and a sanatorium for necessitous individuals is much to be desired. We sincerely trust that the necessary funds will be forthcoming. We may add that it is proposed to form a medical advisory board in London, to which applications for admission would have to be made. Mr. D. C. Lauer, one of the directors, is now in England in order to make the necessary preliminary arrangements.

THE CHAIR OF PHYSIOLOGY IN THE UNIVERSITY OF MELBOURNE.

OWING to the appointment of Dr. C. J. Martin as director of the Lister Institute of Preventive Medicine the chair of physiology is vacant at the University of Melbourne. Particulars as to duties and emoluments can be obtained from the Agent-General for Victoria. The new professor will be required to commence work on March 1st, 1904.

KING'S COLLEGE HOSPITAL.

A SPECIAL court of the corporation of the president, vice-presidents, and governors of King's College Hospital will be held in the large theatre of King's College, Strand, on Monday, Oct. 12th, at 4 o'clock in the afternoon, for the purpose of obtaining the sanction of the members of the said corporation to the removal of the hospital from its present site to a site in South London, which proposed removal is put forward at the initiation of both the council and the committee of management.

HÆMOPHILIA.

IN THE LANCET of Oct. 3rd, p. 958, we published a case of persistent secondary hæmorrhage after enucleation of the eyeball for sarcoma which was under the care of Sir William J. Collins. The history of troublesome hæmorrhage on several previous occasions clearly showed it to be a case of hæmophilia. Very many cases of hæmophilia have been observed and yet it cannot be said that we are materially nearer a knowledge of its true pathology. It is generally accepted that there is no demonstrable alteration in the walls of the bloodvessels. The chemical composition of the blood in hæmophiliacs does not manifest any abnormality and the time required for coagulation is not greater than is needed by the blood of those in health. There is, however, one important difference. When profuse hæmorrhage occurs in a healthy person the coagulability of the blood steadily rises, for a time at least, so that the arrest of the hæmorrhage is assisted; but in those who suffer from hæmophilia the coagulability of the blood diminishes as the amount lost increases. The only point about the etiology of the disease which is indubitable is its transmissibility through the female line, the members of which are themselves unaffected, but in this hæmophilia is not peculiar, for a similar mode of transmission appears to obtain in pseudo-hypertrophic palsy and other conditions. The first clear description of hæmophilia was given by Sir William Fordyce in 1784 and Dr. J. C. Otto in 1803 described the disease in a family where it had occurred for nearly 80 years. Our knowledge of the etiology and pathology of hæmophilia is unsatisfactory but still more unsatisfactory is the treatment. Several drugs, such as chloride of calcium and ergot, have been credited with some power in stopping the hæmorrhage and probably in some cases they do good but certainly in other cases they do not prove of the slightest avail. It is to be hoped that preparations of the suprarenal gland will be of use and they deserve an extended trial though, in Sir William Collins's case already referred to, adrenalin solution did not arrest the hæmorrhage. The most important part of the treatment is prophylaxis. As far as possible all wounds

should be avoided and only absolutely compulsory operations should be performed.

"DECAPODS" AND THEIR DANGERS.

THERE seems to be a general movement amongst the managers of our suburban railways to introduce rapidly starting trains and already on two lines engines for that purpose have been designed which are known as "decapods." It may be assumed that this name has its origin in the number of wheels on the engines which, we believe, are "braced." It is stated that these engines are capable of getting up a speed of 30 miles an hour within 30 seconds of making a start and that in consequence much time is saved at the end of the journey. We have no desire to discourage the attempts that are being made to secure punctuality and despatch with regard to our suburban railway service—there is room for improvement; but, above all, we should prefer to see more attention given to increased accommodation rather than to the sudden getting up of speed. It seems to us that if the system of "decapods" or rapidly starting engines is universally adopted some alteration in the method of admitting passengers to the platform must be made. The system of shutting all entrances to the platform 50 seconds before the train is timed to start, as is the rule in the United States, would become imperative. It is stated that the guards of the "decapod" train are compelled to be well inside their compartments if they wish to run no risks before giving the signal by whistle to start. If that be so, what is likely to happen to the passenger who attempts to enter the train whilst it is in motion? Apart from this aspect of the proposed innovation the question of the effect on passengers of suddenly attaining a speed of 30 miles an hour has to be considered. The policy of the "decapod" is, we think, a mistake and it seems to us that a more rational means of dealing with the congestion and expedition of railway traffic could be devised. The career of the "decapod" from start to finish would seem to be necessarily hazardous. A rapid start, for instance, made in foggy weather when there proved to be a train at a standstill not far ahead might be the preface to very serious consequences.

NORMALLY UNEQUAL GROWTH AS A POSSIBLE CAUSE OF DEATH.

THE subject of comparative pathology is an important branch of biological science of which as yet the merest fringe has been studied and it thus offers splendid opportunities for research, the results of which may probably be of very great value in human pathology and in elucidating the causes of variation in type of diseases affecting man and the lower animals. Mr. Frank E. Beddard, F.R.S., whose great experience as prosector at the gardens of the Zoological Society invests his observations with great weight in these matters, records in an interesting letter to *Nature* of Sept 24th, p. 497, a condition of the circulatory system of the Japanese salamander (*Megalobatrachus japonicus*) which he regards as a result of a normally unequal process of growth and which he suggests as a cause of death—"a truly 'natural' cause of death," as he expresses it. He states that as a result of a good many years' experience he has frequently found it difficult to assign any definite cause of death to the lower vertebrata which die in the gardens of the Zoological Society. In the animal under consideration, which had lived 19 years in the gardens and was some three feet in length, no obvious signs of disease were found in any organ. Judged by its length it must have been old, for a specimen three feet long is stated to have been at least 52 years old.[1] On comparing the heart of this animal with that of another specimen some 20 inches in length, Mr. Beddard found, as he expected, that it was larger and that its subdivisions maintained their relative proportions, but in the larger animal the two sets of valves at the anterior and posterior ends of the pylangium were so small in relation to the lumen of the tube that they would not meet in the middle line and were thus incompetent, while in the smaller salamander they were large enough in relation to the size of the tube to close it completely. Mr. Beddard therefore suggests that these valves in the process of growth do not increase *pari passu* with the general increase in size of the heart and the conus arteriosus. Admitting the accuracy of the observation there are, however, some difficulties in accepting Mr. Beddard's view that this condition should be regarded as the result of a normal process of growth or even as a probable cause of death. In the first place it is difficult to see any *a priori* reason why the valve curtains should not share the general tendency to progressive growth; their failure to do so rather points to a defect of growth and it would be of interest to know the microscopical condition of the cusps and of the wall of the pylangium. It certainly comes as somewhat of a shock to regard a normal process of growth as tending towards death. Again, while it is certain that the condition described would interfere with the circulation, it is obvious that it must be of very gradual development and it might be expected that a defect of this kind would be compensated more or less completely by an increased growth of heart muscle, which apparently did not occur in this case, and that if not so compensated some pathological effects would be discoverable in other organs. On the other hand, that regurgitation can be produced by defective coaptation of healthy valve curtains in the case of both the mitral and the tricuspid valves in man owing to dilatation of these orifices is a fact in human cardiac physics now almost universally admitted, and by some observers a similar condition at the pulmonary or even aortic orifice is believed to occur. Moreover, Mr. Beddard quotes a record of a dissection by Hyrtl of an animal two and a half feet in length in which the valves were figured of small size relatively to the lumen of the vessel, though according to Mr. Beddard incorrectly in some particulars of structure. In any case the observation is of great interest and should direct the attention of those with opportunities for dissection of lower vertebrata to this question, more especially to determine if the condition is frequent and whether it is of normal or pathological origin.

[1] Gadow: Amphibia and Reptiles, p. 99.

DENTAL OPERATIONS UNDER CHLOROFORM.

A RECENT death under chloroform which occurred at Manchester draws attention once more to the danger of using chloroform as an anæsthetic for dental operations unless there is exceptional and convincing reason for its selection. We are not at the moment, however, specially concerned with this aspect of the case but rather with the remarks made upon it by the coroner if the general press, our only present source of knowledge in the case, may be taken as giving a correct account. According to one version we have read the coroner in his remarks to the jury stated that he had a great objection to the administration of chloroform for the extraction of teeth. So far we are, generally speaking, entirely in accord with him. The coroner, however, is reported to have continued by saying that the extraction of teeth should be accomplished without any anæsthetic drug whatever. We cannot believe that the coroner made such a perfectly unjustifiable generalisation. Not only would a needless amount of pain be inflicted upon the public were anæsthetics not employed for dental operations but these operations would also be increased in number. A number of extractions that can be safely performed at one sitting upon

an individual when anæsthetised could not be borne by a conscious individual, and, moreover, there are plenty of cases in which the operation would actually be dangerous by the pain and shock to a conscious person when it is free from danger to the individual skilfully anæsthetised with nitrous oxide or ether. The coroner's remarks in this case, as well as the case itself, should help to enforce a principle that we have insisted upon before now—viz., that if there is any question of the necessity for chloroform in a dental operation the drug should not be administered without the presence of someone experienced in the use of anæsthetics. There is no question that a considerable number of fatalities would be avoided every year if such a principle were everywhere acted upon.

THE OUTBREAK OF CHOLERA IN SYRIA.

THE details given in our present issue of the epidemic of cholera in Syria by the British delegate to the Ottoman Board of Health are deserving of serious attention, for it is evident that although the Egyptian Government was successful in combating cholera when it appeared in Egypt in 1902 yet the progress of the disease was not checked, for notwithstanding every effort to limit its extension the infection was carried into Syria and is there spreading over the greater part of that country. Cholera, as is shown, was not long in reaching Damascus and by August of this year some 223 deaths were reported. The villages around Damascus soon became infected and from there the disease seems to have advanced steadily northwards. It has been epidemic at Hama, a town about half-way between Damascus and Aleppo, and as in the vicinity of Damascus so in the neighbourhood of Hama a large number of villages are suffering from the disease. The news received from these villages is scanty and intermittent and there is reason to believe that the extension of the disease is greater than is likely to be gathered from occasional telegrams. In many instances, it is stated, the name of a village has only been notified after the disease has been present for weeks and has already caused a high mortality. From Telhab the earliest announcement was that the mortality from cholera was ten per day, while almost the first notice of cholera in the village of Rehebé was the announcement of 350 cases with 310 deaths. Cholera has not yet reached the town of Aleppo but it is in the vilayet of that name and has advanced well on its way to Antioch. Tripoli is the only seaport town reported in which the disease has become epidemic. In August the inhabitants were in a state of panic and were leaving the city by land and by sea, so that there is every probability of the infection being distributed in many directions. Beirut is mentioned as one of the places to which the disease has been carried by refugees. Besides spreading to the coast the cholera has also travelled as far as Biredjik, an important town on the Euphrates, where it is feared it will have opportunities of extending to Armenia on the one side and to Mesopotamia on the other.

THE International Sanitary Convention is about to hold a meeting in Paris, the delegates not having met since the convention at Paris in 1897. The British delegates are Mr. Maurice de Bunsen, Secretary of Embassy in Paris; Dr. F. G. Clemow, representative of the International Sanitary Board at Constantinople; Dr. Theodore Thomson of the Local Government Board; Colonel Richardson of the India Office; and Dr. M. Armand Ruffer, President of the Sanitary and Maritime Quarantine Council of Egypt.

THE new east block of the Mount Vernon Hospital for Consumption and Diseases of the Chest at Hampstead will be opened by the Marquis of Zetland, K.T., the President of the hospital, on Tuesday, Oct. 27th, at 3 o'clock. Communications on the subject should be addressed to Mr. J. Morton, the secretary of the hospital, at his office, 7, Fitzroy-square, W. Last year this hospital received a handsome donation of £121,000.

As regards plague in the Mauritius a telegram from the Governor received at the Colonial Office on Oct. 2nd states that for the week ending Oct. 1st there were 57 cases of bubonic plague and 37 deaths. As regards the Cape Colony the medical officer of health of the colony states that for the week ending Sept. 12th the only cases of plague notified were 1 at Port Elizabeth and 1 at East London.

THE annual dinner of the Association of Public Vaccinators of England and Wales will take place at the Hotel Cecil, Strand, W.C., on Friday, Oct. 23rd, at 7 P.M. Communications on the subject should be addressed to Mr. Charles Greenwood, the organising secretary, at the offices of the association, 1, Mitre Court-buildings, Temple, E.C. The association has now been established for five years.

THE King has granted to Dr. F. M. Sandwith His Majesty's Royal licence and authority that he may accept and wear the Insignia of the Third Class of the Order of the Osmanieh, conferred upon him by His Highness the Khedive of Egypt, authorised by His Imperial Majesty the Sultan of Turkey, in recognition of valuable services rendered by him.

THE death of Mr. W. J. Walsham, F.R.C.S. Eng., surgeon to St. Bartholomew's Hospital, is announced as taking place on Oct. 5th. Mr. Walsham had been ill for some weeks and had only just returned from Wiesbaden, whither he had gone for the benefit of his health. We shall publish an extended notice of his career in a future issue.

Dr. B. A. Whitelegge, C.B., His Majesty's Chief Inspector of Factories, has been appointed President of the Epidemiological Society in the place of the late Dr. W. H. Corfield.

THE M.D. DEGREE OF BRUSSELS.

BY N. LEONARD, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

I HAVE had several letters from members of the profession who are strangers to me asking for particulars as to the general requirements of the M.D. Brux. examination. This induces me to think that a large number of medical men in England are interested in the examination and would be glad to know something of it from one who has been "through the mill." And, again, the fact that one reads in almost every issue of the medical press complaints against the English Royal Colleges and other licensing bodies that their Members and Licentiates are prevented from obtaining the much coveted title of M.D. influences me to give a *résumé* of the examination which may possibly induce others to enter for the Brussels degree and so find a satisfactory solution to the difficulty.

In an endeavour to give a lucid description of the examination my remarks naturally fall into the following sections: a recapitulation of the regulations of the examination as set forth in the printed syllabus of the University; and a detailed account of the method of examination, including specimen questions in the several parts. While giving, also, some idea of the general standard required and the relative difficulty of the different subjects, I shall also mention the books usually read.

The regulations as set forth by the University are briefly as follows. The examination, which is conducted *viva voce* in English, consists of three parts, viz.:—First Part: (1) General medicine; (2) general therapeutics, materia medica, and pharmacology; (3) pathology and morbid anatomy; and (4) special therapeutics and medicine of internal diseases, including mental diseases.

Second Part: (1) Surgery (theoretical); (2) theory of midwifery; (3) public and private hygiene; and (4) medical jurisprudence. Third Part: Clinical examinations on patients in (1) medicine, (2) surgery, and (3) ophthalmology; (4) practical midwifery examination; (5) operative surgery examination; and (6) regional anatomy, with dissections. Fees and charges: Matriculation fee, £8 12*s.*; for the three examinations—First Part £4 8*s.*, Second Part £4 4*s.*, Third Part £4 8*s.*; legalisation of the diploma 3*s.*, making a total of £22. Examinations take place on the first Tuesday in November, December, February, May, and June, and usually last from seven to nine days, so that candidates need not be absent from their professional duties longer than 11 days at the outside. Or the three examinations may be taken separately by those who are unable to be absent from home so long, but in such a case the matriculation fee of £8 12*s.* must be renewed. According to the printed syllabus the examination is conducted in English through the medium of an interpreter, but it will be found that the majority of the examiners speak excellent English, as do most people in Brussels, so that the services of the interpreter are dispensed with through the major portion of the examination. Copies of the printed regulations may be obtained by writing to the University or to Dr. Reeve, 2, Harewood-place, Hanover-square, London, W.

The whole of the theoretical part of the examination is *viva voce*, each of the *vivâs* in the general subjects lasting from 15 to 20 minutes. In most of them only *one* question is asked and the candidate is then expected to "talk" on that subject for the required time. For example, he may be asked to describe a typical case of typhoid fever. The examiner settles down to listen, making no remarks during the course of the candidate's answer, but merely notifying him at the expiration of his stipulated time that the *viva* is ended. It is in this main point that the *viva* at Brussels differs from that in England, for here the examiner showers questions on the candidate which require but short answers, often merely "Yes" or "No," whereas in Brussels one must be prepared to give a kind of lecture by way of reply. As a rule, only general questions are asked, and on topics that the average man in general practice should have a good knowledge of. But some of the *vivâs*—and important ones from the Belgian standpoint—may require considerable reading to prepare for, notably those in pathology and pharmacology, the standard of which at Brussels considerably exceeds that required by the Conjoint Board in London. The *viva* in theoretical midwifery is rather different, inasmuch as the examiner does not confine himself to one question but divides his time between embryology and midwifery proper. Considerable stress is laid on the subject of embryology, but one can get up all that is required from the first 90 pages of Galabin's "Manual of Midwifery." The Third Part of the examination presents some difficulties, particularly to the man who has left his hospital days long behind him, as the regulations require him to be familiar with anatomy and, in addition, to dissect some part. Ophthalmology, although little stress is laid on it, may also cause some trouble to one who has had little experience in that branch. Still, the cases are generally simple and straightforward and will be easily overcome by a little reading up of the subject.

I propose now to give a specimen question or two in each subject of the examination in order that the prospective candidate may thoroughly understand what is expected of him.

FIRST PART.

1. *General Medicine.*—Describe a case of cirrhosis of the liver. Describe a case of cholera.

2. *Materia Medica and Therapeutics.*—What do you know of belladonna? (You are expected to give its source, dose, preparations, actions, and therapeutical uses.)

3. *Pathology.*—What do you know of cancer? (The examiner requires a brief description of the various kinds, their usual situations at onset, their mode of spreading, their microscopical appearances, and, possibly, your theories as to its cause.) What is the pathology of tuberculosis of the bones of the spinal column?

(No microscopical specimens are given.)

4. A fourth *viva* of ten minutes' duration is given on methods of staining microscopic sections and the elements of bacteriology.

SECOND PART.

1. *Theoretical Surgery* (held at 8 A.M.).—General questions on fractures, dislocations, and septic diseases, with treatment and prognosis.

2. *Midwifery.*—Describe in detail the macroscopical and microscopical appearances of the decidua and explain its formation. Describe the fœtal circulation and the changes which take place in it at birth. Describe a case of eclampsia and give your treatment. Describe the methods of producing premature labour.

3. *Hygiene.*—Methods of ventilation in a private house, water and its impurities, &c.

4. *Medical Jurisprudence.*—Drowning and its diagnosis. Hysteria and its relation to kleptomania, &c.

THIRD PART.

1. *Clinical Medicine* (held at 8.30 A.M. on Sunday).—Clinical cases in the wards, one case being given to each candidate and questions being asked of the patient through the medium of the interpreter. Plenty of time is given, the candidate not being limited to ten minutes as at the English Conjoint Board examinations, but a full examination of the patient must be made and candidates must be prepared to discuss the case with the examiner like the commentaries required in the higher examinations of the English universities.

2. *Clinical Surgery* (at 8 A.M.).—Cases are selected at random from those waiting to be seen in the surgery. One case is allotted to each candidate. The same remarks as applied to the clinical medicine hold good for the surgery.

3. *Ophthalmology.*—Simple clinical cases as mentioned above—e.g., granular conjunctivitis, corneal ulcer, &c.

4. *Practical Midwifery.*—Use of the forceps, demonstration of "mechanisms" of labour, and the usual operations on the mannikin (model of pelvis).

5. *Operative Surgery.*—One or more actual operations are required to be performed on the cadaver, usually simple ones, such as the amputation of a toe, the ligature of an artery, or one of the commoner amputations on a limb. The candidate will also be asked to mark out with coloured chalk the line of incision and to describe verbally the more difficult operations. He must also be familiar with surface marking, particularly for trephining.

6. *Dissections.*—The most commonly required are the palm of the hand, the dorsum of the foot, Scarpa's triangle, and anticubital fossa. One is not expected to make a particularly neat dissection, as the time is limited to two hours, but anatomical questions will be asked afterwards on the particular part dissected.

The general standard of the examination is, on the whole, rather lower than that of the English Royal Colleges; in some subjects the examination is more difficult and in others it is considerably easier. The relative difficulty of the subjects is approximately as follows: materia medica, therapeutics, pathology, and operative surgery, above Conjoint Board standard; medicine (theoretical and clinical), midwifery (theoretical and practical), and ophthalmology, similar to Conjoint Board standard; surgery (theoretical and clinical), dissections (with anatomical *vivâ*), public health, and medical jurisprudence, below Conjoint Board standard. Honours are granted in each part on the same lines as at the English universities to candidates who obtain a certain percentage of marks.

The books generally read, and which I should recommend, are as follows. Medicine: Taylor's "Practice of Medicine." Materia Medica and Therapeutics: Hale White's "Materia Medica" and Lauder Brunton's "Action of Medicines." Pathology: Bowlby's "Surgical Pathology," and Green for reference purposes. Surgery: Rose and Carless or Walsham. Midwifery: Galabin's "Manual of Midwifery" and Herman's "Difficult Labour." Ophthalmology: Jessop's "Ophthalmic Medicine and Surgery." Operative Surgery: Waring's "Manual of Operative Surgery." Anatomy: Gray.

The total cost to the average candidate, including examination fees, residence in Brussels, return passage, and coaching fees (and I would strongly advise coaching by correspondence), would be about £40, as residence in the Belgian capital is remarkably cheap, especially at the English "pensions" on the Boulevard de Waterloo.

The average percentage of failures recently is 50 to 60, which is rather disheartening, but is easily accounted for by the fact that the foreign candidate under-estimates the standard of the examination, particularly in the stiffest subjects—namely, therapeutics and pathology.

Fuller particulars than one can give in the limited space of a short paper will be found in Dr. Henchley's little book, recently published ("The M.D. Examination of Brussels University," by A. R. Henchley, M.D. London: Mitchell, Hughes, and Clarke. 2*s.* 6*d.*).

I trust that these remarks may be helpful to those of my profession who are considering the advisability of entering for the Brussels degree, which I honestly believe to be well worth the time, trouble, and expense spent upon it. I feel confident that the possession of the degree will amply repay them in social status for the worry and anxiety always associated with an examination.

VACCINATION GRANT.—Mr. Legh Richmond Marshall has received the Government grant for efficiency in vaccination as public vaccinator in the Mary Tavy district of the Tavistock union.

BORIC ACID IN MILK.—The Exeter city council has issued a circular to the vendors of milk in that city drawing their attention to the fact that the addition of boric acid to milk is an offence under the Sale of Food and Drugs Act.

ANNUAL REPORT (FOR 1901) OF THE REGISTRAR-GENERAL OF ENGLAND AND WALES.

II.[1]

AMONG the many purposes served by the national records of English mortality from specified causes is this—that they constitute a standard by which may be measured the mortality from corresponding causes in particular administrative counties, urban and rural sanitary districts, the sanitary circumstances of which are, or ought to be, under constant medical supervision. In our editorial capacity we are frequently applied to by medical officers of health for standard data of this nature needed by them for the compilation of their local reports; and here we pause to remind our official correspondents that within six weeks of the close of each year the Registrar-General publishes in his return for the fourth quarter the vital statistics concerning the country generally, the inclusion of which in the annual reports of medical officers of health is required by the Local Government Board.

To return to the volume before us, we notice that in the report for 1901 an attempt has for the first time been made to establish a *norma* with which the several death-rates, not for urban districts alone but for rural districts also, may properly be compared.

In consequence of the changes in the character of rural communities that are constantly being effected by the "urbanising process" everywhere going on accurate discrimination between urban and rural aggregates of administrative areas is found to be impracticable. The following expedient, however, has been adopted as the best attainable in present circumstances. A selection from among the English counties has been made so as to show in one list certain counties that are chiefly urban in character and contain most of the industrial centres, and in another list certain counties that are exclusively rural or that contain only a few small towns which, although technically styled urban, nevertheless partake of that character to a slight degree only. In this way a rough sorting of counties into urban and rural has been established which, although not ideally perfect, will nevertheless usefully serve the object in view—namely, that of furnishing criteria by which the health conditions of individual urban and rural areas respectively may be tested.

In the case of such diseases as pulmonary phthisis, enteric fever, diarrhœa, or pneumonia it would be futile to compare the mortality in a distinctively rural area such as that of Shropshire or of Somersetshire with the corresponding mortality in England and Wales, more than half of the population of which is essentially urban in character. Equally futile would it be to compare with the same standard the mortality from any of these diseases in a vast urban community like that of Manchester or Birmingham, for it will readily appear on reference to the tables that the mortality from every one of the diseases mentioned is enormously greater amid the unhealthy conditions of our crowded towns than in the sparsely populated areas of our country districts. Therefore, in order that the mortality from a given cause in a rural area may be rendered fairly comparable with that in an urban area allowance must be made for differences of age constitution of the population.

In the earlier portion of this report a table is given which shows that almost without exception the mortality in the several counties that are mainly urban has been increased, whilst that in the mainly rural counties has been reduced, by correction for the differences referred to. That this is the case will clearly appear if the mortality of Lancashire, an essentially urban county, be contrasted with that of Norfolk, which is mainly rural; for whilst the rates of mortality uncorrected for age differences of population show an excess in the case of Lancashire amounting to only 20 per cent., the corrected rates show an excess of 53 per cent. The explanation is obvious, for whereas in the increasing population of Lancashire 85 per cent. of the people are found living at ages from five to 65 years, and only 15 per cent. at ages outside these limits, in the relatively stationary population of Norfolk the proportions are 81 and 19 per cent. respectively. Thus, of the population exposed to the high risk of mortality attaching to the beginning and the end of life there is a much larger proportion living in Norfolk than in Lancashire. It is, therefore, apparent that wherever great differences exist in the age constitution of communities their several death-rates must be modified in order to allow of valid comparison.

Tuberculosis and cancer, two diseases the prevalence of which has recently engrossed a large share of public attention, are treated of in considerable detail in the present report. From an interesting table which compares the mortality from pulmonary phthisis at several age groups in quinquennial periods at the beginning and the end of the last quarter of a century we learn that in 1901 this disease was fatal to 1487 per 1,000,000 of the male population of England and to 1055 of the female, the male rate having decreased since 1876–80 by 28 per cent. and the female rate by not less than 42 per cent. Among both males and females the reduction in the death-rate has been greatest at ages below 35 years. Males suffered more severely than females in London and in most of the other English counties, the male rate of mortality from this disease in the county of Warwick being nearly double the female rate. After correction for age differences in the several populations the death-rate from pulmonary phthisis among males at all ages is higher in the urban than in the rural counties by 29 per cent., whilst among females the urban and rural rates are practically identical. When, however, separate account is taken of the mortality at particular ages it is found that among persons of both sexes at ages from 15 to 35 years the disease is more fatal in the rural districts than in the urban, whilst at all other ages the reverse is the case. This apparent exception in favour of the towns suggests comparison with the case of pneumonia, the mortality from which disease is greater at all ages in the town than in the country. The explanation probably lies either in the circumstance that migration frequently takes place of young country-bred adults to the towns or in the nature of the diseases themselves. It may reasonably be supposed that as a rule the more vigorous of the young people are attracted to the towns in expectation of lucrative employment and we know that a portion of these eventually fall victims either to pulmonary phthisis or to pneumonia. The course of the former disease is generally chronic, its victims tending to become incapable of sustained exertion for a considerable period before death. The course of pneumonia, on the other hand, is generally so rapid as to prevent the patient's removal to long distances from the place of attack. Consequently, in the former case many of the patients return to their native places and their deaths are there recorded; in the latter case such return will almost certainly be the exception. Moreover, the longer the period of residence in a town the less is the probability of return to the country in case of disablement; in the first place, the previous home is less likely to be available, and in the second place the patient is more likely to be tied to the town by the responsibilities of a family.

From these considerations it might almost have been foreseen that the increase of mortality from pulmonary phthisis in rural districts caused by the return of natives from the towns would be limited to a small group of ages. The table shows that this has actually been the case, for in both sexes after the thirty-fifth year this mortality in the rural counties is seen to be much lower than in the urban.

From cancer the mortality in England and Wales during 1901 was the highest on record. Among males it was fatal at the rate of 691 per 1,000,000 living, which exceeded the decennial average rate by 16 per cent. Among females the rate was 985 per 1,000,000, or 9 per cent. in excess of the average. The present report contains two new tables which show for males and for females separately the relative frequency with which cancer affects the different parts of the body. The ages at death of the victims to cancer are also stated. The statistics of 1901 confirm those of previous years in showing that malignant disease is much more fatal among women than among men, but it still remains true that this is because of the tendency of cancer to affect the generative and mammary organs of the female rather than those of the male. In the year 1901 the male deaths from malignant disease less those from affections of the organs referred to were equal to a rate of 673 per 1,000,000 living, whilst the female rate with the

[1] The first notice was published in THE LANCET of Sept. 26th, p. 900.

same limitation did not exceed 575 per 1,000,000. It is in the case of diseases like cancer, which are fatal chiefly at particular ages, that the necessity of correction of the death-rates after the method already referred to is especially apparent. The mortality from malignant disease at ages below 35 years is small and is generally disregarded, but if the cancer mortality in 1901 at all ages over 35 years be judged of by the uncorrected rates it will appear to be higher in the rural counties than in the urban, whereas if the corrected rates be examined the opposite conclusion follows, for the rural mortality is in that case shown to be the lower. In the calculation of local cancer rates of mortality a serious complication arises from the occurrence of the deaths of many country patients in the hospitals of our great towns and their registration there. In addition to this it would be absurd to assume that the place of every patient's last residence before death had been also the place of origin of his disease.

Among the other interesting matters dealt with in the present volume we have only space left to notice one more section which now appears for the first time—namely, that relating to infantile mortality. The mortality among infants and very young children has always been regarded as a valuable test of salubrity and for this reason Dr. Tatham has thought well to devote to it special attention in the present report. Two important new tables have now been inserted. In one of them the mortality of infants under one year of age is calculated in terms of registered births in 1901, and in the other the mortality of children under five years old is shown as a proportion of the population estimated to be living at that age in the middle of the year. These tables have been prepared to show the death-rates from several causes in each of the English counties but on examining critically the local mortality very great differences became manifest according as the areas selected are urban or rural in character. In another pair of tables the mortality in the urban and rural list of counties before referred to is shown, from which it appears that both among infants in their first year and among children of less than five years the mortality is considerably greater in the urban group of counties than in the rural, and this is true whether the total mortality or the mortality from all the specified causes (with one exception) is put in comparison. It is noteworthy that at ages under one year as well as at ages under five years, boys die more rapidly than do girls and this is the case with respect to the rural quite as markedly as to the urban districts.

In concluding our notice of this report we need only say that in its present greatly improved form it will be found a serviceable and almost indispensable addition to the library of the medical officer of health.

THE CHOLERA EPIDEMIC IN SYRIA.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

THAT a great part of the Syrian interior, and to a less extent the coast, has been and is still being seriously ravaged by cholera there is unfortunately no room to doubt. The probability of a still more extensive spread of the disease in the near East and of its ultimate appearance in Europe itself is so great that serious attention may be usefully directed to the course the disease has followed hitherto, and no apology is needed for giving in some detail what is known of its behaviour in Syria during the past few months. Before doing so it will be convenient to recall the history of the epidemic in the Turkish empire since it first appeared there some year and a half ago. This has been already given in detail in successive letters to THE LANCET[1] and may be briefly summarised here.

Cholera broke out among the pilgrims to Mecca and Medina early in March, 1902. It caused a considerable but not excessive mortality among them, and at the end of the pilgrimage almost disappeared from the Hedjaz. At the end of May it appeared in the Yemen and through the summer and autumn was seriously prevalent in several places along this portion of the Arabian coast, as also at Yambo and elsewhere. It reappeared in Medina in September. The Assyr province has also been the scene of a rather serious outbreak. Cholera was first recognised in Egypt in July and caused a widespread, though not a remarkably intense, epidemic, which lasted through the autumn and the early part of the winter. From Egypt cholera was carried to Syria at the end of September. It was the cause of a considerable mortality on the coast and in the interior of Palestine; it appeared in the Hauran, and at the end of November it was reported from Damascus. It was epidemic here until the middle of February, when it disappeared only to break out again a month later. Through the later months of the winter and early spring the disease was confined to Damascus. Its subsequent course here has been as follows.

Throughout the month of April the number of cases of, and deaths from, cholera in Damascus varied from between *nil* and three each day. Towards the end of the month there were several days together during which no fresh case was reported. But occasional cases continued to occur through April and May, and towards the end of May it was officially admitted that the disease had appeared in several villages outside the town of Damascus itself. In the town the official figures would indicate that the cholera remained comparatively quiescent, causing only sporadic cases, until the second week in July, when it became more active, and that since that date it has been truly epidemic. The following are the figures published in the official bulletins since the beginning of the recrudescence of cholera on March 18th last:—

Cholera in Damascus.

Date.	Cases.	Deaths.
From March 18th to May 3rd	77	87
,, May 4th ,, ,, 11th	4	5
,, ,, 12th ,, ,, 17th	3	2
,, ,, 18th ,, ,, 24th	9	7
,, ,, 25th ,, ,, 30th	4	4
,, ,, 31st ,, June 7th	1	1
,, June 8th ,, ,, 11th	2	2
,, ,, 12th ,, ,, 20th	5	4
,, ,, 21st ,, ,, 28th	6	7
,, ,, 29th ,, July 4th	10	13
,, July 5th ,, ,, 12th	8	7
,, ,, 13th ,, ,, 18th	43	23
,, ,, 19th ,, ,, 26th	31	31
,, ,, 27th ,, August 1st...	29	19
,, August 2nd ,, ,, 8th	20	11
Totals	257	225

The totals are believed to be very considerably below the truth.

The first known cases of cholera outside Damascus during the present summer occurred at Katana, the centre of a district of the same name, situated some "three hours" (say, 15 miles) to the south-west of Damascus. On inquiry, it was ascertained that on May 24th a woman inhabiting Katana was attacked with symptoms of cholera but recovered. Her father fell ill on the morning of the 25th and died at 11 o'clock the same night. Three other persons were attacked on the same day and died after illnesses varying from five and a half to 20 hours. Another death occurred on the 26th; the patient, a woman, had suffered from diarrhœa for several days previously. On the 27th a seventh person, a man, was taken ill at 6 o'clock in the evening and died seven hours later. Cases continued to occur here until June 26th, since which date Katana has disappeared from the bulletins. It is not, however, quite clear whether this indicates a complete cessation of the epidemic there.

On June 1st news was received of the appearance of cholera at Zebdani, some 20 miles to the north-west of Damascus, and having a station on the line of railway from Beirût. The first case was that of a vegetable-seller who had left the village for Damascus on May 20th and returned to Zebdani on the 24th. He fell ill on the following morning with colic, diarrhœa, vomiting, cramps, and cyanosis, and died on the 26th. About the same time cases were reported from Douma, a few miles east of Damascus. Two men fell ill here with cholera on May 28th and died on the following

[1] THE LANCET, March 4th (p. 916), July 5th (p. 39), and Nov. 22nd (p. 1414), 1902, and Jan. 31st (p. 324), and April 11th (p. 1052) 1903.

day. A third had suffered from vomiting and diarrhœa, but was convalescent when the other cases were reported.

On June 6th the appearance of cholera in Ideyde, a village of 500 inhabitants, four hours north-east of Damascus and in the district of Douma, was announced. The first known case was that of a man from Hedjani, a village in the neighbourhood of Ideyde, who died in a tent close to the latter village on May 28th, shortly after eating a hearty meal. On the same day an old man, aged 60 years, and a child, aged three years, fell ill and died. On the 31st the wife of a Bedouin died, apparently from cholera, in another tent near the village. On June 2nd a man and a child, aged nine years, fell ill and died suddenly. Two other persons were found to have suffered from choleraic symptoms and were convalescent at the time of the inquiry.

It is clear, then, that about the last week in May and the first week in June the cholera infection had begun to spread in all directions from Damascus as a centre. Villages were already infected lying from 10 to 20 miles to the east, to the west, to the north-west, and to the south-east. A little later the disease began to advance steadily northwards. On June 8th it was reported that seven cases of cholera, of which three had ended fatally, had occurred in the village of Kara, in the district of Nebik, 15 hours north (or north-north-east) of Damascus and 12 hours south of Homs. Both Nebik and Kara are on the main line of communication which runs northwards from Damascus, through Homs and Hama, and ultimately to Aleppo. This, as will be shown later, has been one of the principal lines along which the present epidemic of cholera in Syria has spread, a second route of importance being the valley of the Orontes river. On June 12th news was received of a suspiciously high mortality in Hama itself. Hama, or Hamath-Epiphania, is a town of some size situated about the thirty-fifth parallel of latitude and rather more than half way on the road from Damascus to Aleppo. The first telegram from here reported numerous deaths in a short space of time in a certain quarter of the town. A sanitary inspector was sent to inquire and he definitely announced that cholera existed in the Medina quarter of Hama. The outbreak here has been one of considerable severity, as shown by the following figures:—

Cholera at Hama.

Date.	Cases.	Deaths.
From June 8th to 12th	?	?
,, ,, 13th ,, 19th	23	12
,, ,, 20th ,, 26th	13	7
,, ,, 27th ,, July 2nd	29	34
,, July 3rd ,, ,, 10th	41	83
,, ,, 11th ,, ,, 17th	55	56
,, ,, 18th ,, ,, 24th	25	35
,, ,, 25th ,, ,, 30th	23	26
,, August 1st ,, ,, 7th	15	25

Although Homs lies considerably to the south of Hama and between the latter and Damascus, it was not invaded by cholera until more than a month after the disease had well established itself in Hama. The first known cases occurred here on July 15th and between that date and the 31st 34 cases and 21 deaths were reported. From August 1st to 7th there occurred 67 cases with 64 deaths and from August 8th to 14th as many as 146 cases and 161 deaths.

In the meantime cholera was continuing more or less actively in the places already named in the near neighbourhood of Damascus and spreading to others. It is impossible to find on the best maps extant the names of many of the villages to which the disease is said to have spread and it would occupy too much of your valuable space to trace in detail the course of the epidemic in each of these obscure localities. It will suffice to give their names, their approximate position, and the dates where known of the first cases. This I have attempted to do in the table given on next column.

The course and intensity of the outbreaks of cholera in these various villages have differed greatly. It must, however, be remembered that the news received from many of them has been scanty and intermittent and the mention of only a few cases from time to time in any particular village is no evidence that these are all the cases that have occurred there. The date of the first case or cases in any village has rarely been given with accuracy. In many instances the name of a village has only appeared in the telegrams after the disease has been present for weeks and already caused a high mortality.

Name of village.	Approximate position and size.	Date of first cases of cholera.
Cadbrand.	"Three hours south of Kira" (? Kara).	June 13th.
Dumashé.	?	,, 13th.
Beytaria.	"Six hours east of Damascus;" a village of 200 inhabitants and 11 houses.	,, 6th.
Karale.	?	?
Sbene.	"Half-an-hour south of Damascus."	June 18th.
Yabroud.	?	,, 18th.
Kemaria.	?	,, 18th.
Adra.	"Three hours north-east of Damascus."	Before ,, 20th.
Molaka.	?	,, 22nd.
Rama.	?	,, 19th.
Tel-Nebsan.	"One hour from Ideyde."	,, 6th.
Telhab	In the Hamidié district.	?
Deir-Shemil.	?	June 25th.
Ghabagheb.	In the Hauran; 2000 inhabitants.	,, 19th.
Djebal.	Two hours from Ghabagheb; 1000 inhabitants.	,, 17th.
Ain-karoun.	In the Hamidié district.	Before July 2nd.
Messyaf.	,, ,, ,,	,, ,,
Der-Ali.	"Four hours south of Damascus;" 250 inhabitants.	June 17th.
Kessoué.	"Three hours south of Damascus."	,, 20th.
Zobar.	"In neighbourhood of Der-Ali."	?
Merdjani.	,, ,,	?
Shegrania.	,, ,,	?
On-el-Koussour.	,, ,,	?
Boida.	?	June 17th.
Hadjira.	"Half an hour from Boida."	?
Tel-Mescas.	?	June 25th.
Hamidlé.	?	July 11th.
Larmié.	?	,,
Kouteipa.	?	Before July 11th.
Mahzania.	?	,, ,,
Rehebé.	?	,, ,,
Doumer.	?	,, ,,
Menyoud.	In the Selimié district, south-east of Hama.	,, July 14th.
Dermana.	?	,, July 15th.
Michta.	?	,, ,,
Kariat.	?	,, ,,
Khan-Sheikhun.	North of Hama and on the Hama-Aleppo road.	July 1st.
Mervout.	In the Selimié district.	Before July 17th.
Saran.	"Four hours from Hama" (direction not stated).	,, ,,
Tel-Meskan.	?	July 7th.
Kab-Elias.	"South-west of Maalaka."	,, 15th.
Ghaza.	"Four hours south of Maalaka."	Before July 18th.
Haresta.	In the Douma district.	,, ,, 20th.
Maalaula.	In the Nebik district.	July 18th.
Chedjara.	In the Kuneitra district (Hauran).	Before August 2nd.
Hauche-Hala.	In the Bekaa district.	July 29th (?).
Nehir.	In the Zebdani district.	August 1st (?).
Kerdjela.	"Four hours south of Damascus."	In July.
Zahla.	In the Lebanon.	August 4th.
Nebik.	Centre of district of same name.	,,

Thus, for example, the first news from the village of Beytaria was that 26 persons had been attacked and that 23 died within a week. From Telhab the earliest announcement was that the mortality from cholera had already reached ten per day. Still more striking was the first news from Der-Ali. From this village, of only 250 inhabitants, it was reported on

July 5th that 51 deaths had occurred there since June 17th, that 15 fresh cases had been declared on July 4th, and that 43 Bedouins camped near the village had also died from cholera. In like manner it was learnt from a report received at the beginning of August from the medical officer of Nebik that the disease existed in many villages that had not been mentioned in the daily telegrams and that in those which had been mentioned the mortality had been much higher than was indicated by the daily returns. The following were the figures given in this report as the totals of cases and deaths from the beginning of the epidemic to August 2nd (all the villages mentioned are in the district of Nebik):—

Name of village.	Cases.	Deaths.	Name of village.	Cases.	Deaths.
Kara	56	35	Maadania...	49	28
Derative ...	13	3	Rehebé ...	350	310
Yabroud ...	150	100	Djeroud ...	40	35
Maaloul ...	3	3	Admir ...	150	120
Aintive ...	19	16	Nasria ...	1	1
Kouteiba ...	31	18	Outrié ...	2	1

The village of Rehebé mentioned in this report had scarcely been referred to in any previous telegram and almost the first notice of the existence of the disease there was the announcement of 350 cases with 310 deaths. A similar statement is true of Admir with its sudden announcement of 150 cases and 120 deaths.

It will be gathered from these facts—and the conclusion is abundantly confirmed from other sources—that the actual course of the present epidemic, the extent of country which it has covered, and its intensity in different places are matters upon which it is impossible to speak with exactitude. All that can be said is that the greater part of the Syrian interior—or hinterland, if the word be preferred—is more or less severely affected; that the disease has steadily progressed in all directions, but particularly northwards, from Damascus; and that in all probability could the total mortality be known it would prove to be a very high figure. That the disease is an acute form of cholera is clear from the very short duration of many of the cases. The figures are far too inexact to draw any conclusions from the proportion of deaths to reported cases.

The above figures and statements refer exclusively to the epidemic in the interior of the vilayet of Syria. Recently it has spread northwards to that of Aleppo and westwards to the shores of both vilayets. The first place invaded by the disease in the Aleppo vilayet was Djisri-Shagur, 12 hours south-west of Aleppo, a town of some importance, on the Nahr-el-Asi, or ancient Orontes, river. It is not quite clear when the disease first appeared there. On July 20th it was reported that ten cases had occurred there on the previous day so that presumably it had been present there for some little time before. The course of the outbreak there has been as follows:—

Date.	Cases.	Deaths.
From July 19th to July 25th	52	18
,, ,, 26th ,, August 1st	83	75
,, August 2nd ,, ,, 8th...	26	27
,, ,, 9th ,, ,, 15th...	13	10

On July 20th three cases of cholera occurred at Idilp, another townlet of some importance, three or four hours east of Djisri-Shagur, and between it and Aleppo. The outbreak there has apparently not been a serious one, the reported cases in the four successive weeks numbering four, five, four, and two, and the deaths four, four, five, and two respectively. Other villages in which cholera has appeared in the Aleppo vilayet have been the following: Kespan and Kirk-Boutjouk, both in the district of Djisri-Shagur, first invaded on July 21st; Maharah (position not named), first invaded on July 31st; Nahli, on August 2nd; Binieh, in the Idlip district, at the end of July; Muara (date not named); and Eriha, on August 12th. Cases also occurred in the lazaret at Khan Sheikhun, this village lying on the frontier line between the two vilayets of Syria and Aleppo. From the positions of the above-named places, so far as they are known, it will be seen that the cholera has advanced well on the way towards both Antioch and Aleppo, but neither of these cities has as yet become infected.

Up to July 22nd the epidemic was confined to places in the interior. On that date the first case occurred on the coast in the important port of Tripoli. On the 24th a second case occurred and for several days only occasional sporadic cases were reported, but at the beginning of August the numbers began to rise considerably and on the 4th it was reported by telegram that the inhabitants were in a state of panic, that they were leaving the city by sea and land, and that scarcely half the population remained. The last statement appears to have been an exaggeration, but it is certain that a large number of refugees have fled from Tripoli in the last fortnight—in some instances carrying the infection with them. In Tripoli itself the official figures have been as follows:—

Date.	Cases.	Deaths.
From July 22nd to July 26th	2	2
,, ,, 27th ,, August 2nd	13	9
,, August 3rd ,, ,, 8th	109	61
,, ,, 9th ,, ,, 15th	109	102
On the 15th	19	15
,, 16th	14	11

Finally, two cases of cholera have been reported in the last few days from Beirût, whither the disease has been carried by refugees from Tripoli. The first case here was that of a sanitary guard, placed on board a sailing ship that had arrived from Arvat, an island near Tripoli, on August 6th. He developed symptoms of cholera on the 11th. Although the captain of this boat denied having touched at an infected port, it was ascertained that he had not only called at Tripoli but had taken in vegetables and water there. A second case also occurred on the 11th. The patient was a young woman who was undergoing quarantine in the lazaret at Beirût. She had been a passenger on a sailing ship which arrived from Tripoli on August 7th. She died on the 13th. She is said to have lost several relatives from cholera in Tripoli and her fellow passengers, 220 in number (on a sailing ship so small that the crew consisted of but three men), were mostly refugees from that port.

As already stated, it is extremely difficult to form an accurate idea of the total mortality that the present epidemic has caused. The official bulletins, down to the last one published on August 17th, have reported 3182 cases and 2631 deaths since March 18th. But it is very probable that were the truth known these figures would have to be doubled or even trebled. Even from the towns and villages the information received is imperfect, while almost nothing is known of what is occurring among the Bedouin and semi-nomad population.

Constantinople, August 19th.

PS.—Since writing the above, news has been received of the appearance of cholera in Biredjik, an important town on the Euphrates river some 60 miles north-east of Aleppo. On August 16th there were four cases and three deaths here, on the 17th one case and one death, and on the 18th two cases. It is noteworthy that the disease has spread so far to the north and east as Biredjik without appearing in Aleppo first, although the latter city is in a direct line between the other infected places and Biredjik. It is to be feared that cholera, having reached the Euphrates river, will now spread to Armenia on the one hand and to Mesopotamia on the other.

August 20th.

MEDICINE AND THE LAW.

A Garbage-monger Imprisoned.

CASES of the exposure for sale of food unfit for human consumption have a certain amount of similarity in their general features. The Exeter magistrates, however, on Sept. 25th dealt with a miscreant whose offence was even more recklessly dangerous and more crudely disgusting than is usual. A quantity of herrings had been consigned from Grimsby to a fish merchant at Exeter who had refused to accept delivery of them. The Great Western Railway

Company officials, being naturally unwilling to keep stinking fish at their station, in order to get rid of them sold them for manure to the defendant, a man named Crawley, who thus obtained six barrels containing 2800 herrings for 4*s.*, or between four and five dozen for 1*d.* In his purchase he had as a partner another man who went at once to try to find a purchaser of the herrings as manure, during which time Crawley obtained a hand-barrow and proceeded to offer them as food in one of the poorest parts of the city. Here a sanitary inspector found him trying to sell the putrid fish as "fresh herrings" at 3*d.* per dozen, and a boy who had been engaged to help to push the barrow gave evidence that some had actually been sold. An order was obtained for the destruction of the fish and Crawley received a well-merited sentence of two months' imprisonment, being perhaps lucky in having been so early detected in his attempt upon the health of his neighbours.

Another Garbage-monger Fined.

The herrings bought wholesale at Exeter as manure and retailed by their purchaser for human food might appropriately have been followed on the dinner table by certain meat of which 27 pieces weighing 154 pounds were seized recently at Manchester. Upon the prosecution of a butcher named George Thompson of Medlock-street, Hulme, for exposing the meat for sale, evidence was given which showed that he had bought about 300 pounds on a Saturday morning at 1½*d.* per pound, that on the evening of the same day when seen by an inspector of the markets committee it was turning green and was in an advanced stage of decomposition, and that it had been cleverly disguised by being mixed with better meat, a piece of sound frozen meat being in one case found skewered to a piece of the bad meat so as to cover and to conceal it. For the defence it was said that half the meat bought had been sold and that only one customer had complained of it, that it had been a bad day for keeping meat, and that the low price was due to the wholesale traders' desire to get rid of their stocks before Sunday. The magistrates ordered Thompson to be fined £20 and costs and expressed the opinion that better supervision at the slaughter-houses on Saturday morning was needed.

Evidence before Coroners.

At an inquest held before Mr. Wynne E. Baxter upon the body of a barmaid who was stabbed at a public-house a somewhat animated discussion seems to have taken place between the coroner and the solicitor representing a person arrested for the crime who was present in custody. The dispute was not upon a point of direct medical interest but so many medical men are appointed coroners that it may be useful to call attention to it. A medical coroner may have received some legal training and yet not have had the opportunity of rendering himself familiar by practice in the courts with the points which may be raised at any moment before him. In this instance it may be observed that the coroner whose mode of putting a question was objected to said that he had had 25 years' experience in his office, to which the objecting solicitor retorted that he on his side had had 40 years' practice in advocacy. The *Daily Telegraph* thus reports the matter. The coroner asked a witness, "Have you ever heard the prisoner threaten the deceased?" "Yes." Mr. Armstrong (the solicitor): "Is not that a leading question and hardly fair to the prisoner?" The Coroner: "There is no question of leading questions in a coroner's court." Mr. Armstong: "The law of evidence applies here, I suppose?" The Coroner: "Only to a limited extent." Mr. Armstrong: "It would not be accepted where they know the law." The coroner appears to have been perfectly right in his estimate of his position and the form in which he put his question was not an unfair one. The law of evidence only applies in a limited sense to a coroner's court in that the inquest is held, or rather conducted, by the coroner only for the purpose of ascertaining the cause of death. There are no parties before him, no one intervenes in the interest of any person suspected or otherwise except by the coroner's permission, and the coroner is responsible for the eliciting of the truth. It is a court of inquiry merely. A leading question is one which suggests its answer and is objectionable on these grounds. That is to say, an advocate is rightly not allowed by the form of his question to put into the mouth of his own witness the answer which he desires to obtain. The coroner is not an advocate, nor is he a judge holding even the balance between two advocates; he is endeavouring to get at the facts in the interests of the public and very often has but little to help him in so doing. Consequently he not only may, but sometimes must, put questions in a form which would not be permitted in the case of a prosecuting counsel upholding a particular theory with regard to a crime as against that propounded by the defence. Moreover, the question put by Mr. Wynne Baxter was only to a very small extent a leading question. It suggested the idea of threats but there was nothing in the form of it to show that a particular answer was expected and the reply might have been "yes" or "no." Had he asked "Have you *not* heard the prisoner threaten the deceased?" he would clearly have suggested a response in the affirmative. Had he said, putting the words actually used into the witness's mouth, "Did you once hear the prisoner say 'I will put her light out'?" he would have caused the answer "Yes" to cover a detailed statement of matters with regard to which the witness should have given evidence spontaneously and to have done so would have interfered with the fairness of the inquiry. It is true that Mr. Wynne Baxter might have said to the witness "Have you ever heard the prisoner speak of the deceased?" and on obtaining the answer "Yes" might have followed up the first question by asking "In what terms did he do so?" and so on until he arrived at the words actually used. To do this would be open to no objection from the advocate appearing for a suspected person but under such conditions the coroner might not find it easy to get through his work in the time at his disposal and might also find it very much more difficult than it now is to arrive at any conclusion at all. The accused person is protected from any possible injustice by the fact that at his ultimate trial, if he be committed, a stricter practice prevails than that of the coroner's court.

MEDICAL SCHOOL DINNERS.

The Middlesex Hospital.—Adhering strictly to precedent the past and present students of the Middlesex Hospital and their friends assembled on Oct. 1st at the Trocadéro Restaurant to celebrate the commencement of the academic year. There was a good attendance, 141 sitting down to dinner, under the chairmanship of Dr. William Pasteur, physician to the hospital. The guest of the evening, the Hon. Mr. Justice Wills, had presided during the afternoon at the opening ceremony in the medical school, distributing the scholarships and prize swith much geniality and interest. Lord Sandhurst, K.C.S.I., having resumed his old position in the direction of affairs as chairman of the weekly board, was also present with other members of the governing body and of the consulting and active staff. After the royal toasts had been duly honoured that of "The Services" was proposed by Sir Richard Douglas Powell who referred to numerous officers in all branches of the public service who had received their medical education at the Middlesex Hospital. Lieutenant-Colonel M. W. H. Russell responded, alluding to the services of the medical department in the field during the recent war and acknowledging the appreciation of the *personnel* even if criticism had fallen on the former system of the Royal Army Medical Corps which had recently undergone extensive modifications and reforms. The toast of "The Middlesex Hospital and the Medical School" was then given by the chairman who dwelt upon the steady progress of both and referred to the recent additions and improvements which rendered the school not only complete in all essentials but placed it in the first rank in research and laboratory equipment. Lord Sandhurst replied on behalf of the hospital, mentioning his unbroken association with medical organisation, since the interval between his former and present tenure of the chairmanship had been devoted to the Presidency of Bombay in the period of plague and famine, where he had still further proof of the devotion and sympathy of the members of the medical profession. Mr. John Murray, the Dean, spoke on behalf of the medical school the full achievement of which he had given in the afternoon. The health of the past and present students was proposed by Dr. Sidney Coupland in an excellent speech full of reminiscences of an earlier phase of hospital work and was replied to by Dr. Edward Norton and Mr. W. A. Rees, representing respectively the former and present pupils of the school. The health of the visitors was proposed by Mr. Stephen Paget in a humorous and appropriate speech and was responded to by the Hon. Mr. Justice

Wills and by Mr. Wilhelm Ganz, under whose direction, with the assistance of Mr. Bovett, Mr. Hugh Peyton, and Mr. Charles Deacon, a most enjoyable musical programme was given. With the toast of "The Chairman," proposed by Mr. A. Pearce Gould and feelingly acknowledged, a most enjoyable gathering terminated shortly after 11 P.M.

Charing Cross Hospital.—Mr. C. Carter Braine presided on Oct. 1st at the annual dinner of the past and present students of the Charing Cross Hospital which took place at the Hotel Cecil, London. The toast of "The Hospital and Medical School" was given by Mr. Braine who spoke of the loss which the institution had sustained by the retirement of Dr. T. H. Green from the medical staff. He said that the name of "Tommy Green" was known throughout the entire medical world in connexion with clinical teaching. Although the medical school of Charing Cross Hospital must be always a small one they must make up for the paucity in numbers by the quality of the men. Mr. Braine made a short speech because, he said, that as an anæsthetist it was his duty to keep his eyes and ears open and his mouth shut. Dr. F. W. Mott in responding described the way in which Dr. Green's book on Pathology had stimulated him as well as others in their work. Mr. H. F. Waterhouse then gave the toast of "The Visitors" and told his audience how he had been charged by Sir Charles Wyndham to express his regret at his unavoidable absence from the dinner. Sir Charles Wyndham had also requested him to convey to the students of the hospital an invitation to come on any date they might fix to his theatre where he would be glad to welcome them. A telegram accepting the invitation was duly despatched to Sir Charles Wyndham. Mr. P. J. Freyer replied for the visitors. Mr. Stanley Boyd in a neat speech proposed the toast of "The Chairman's Health" and an enjoyable dinner was brought to a close by a very hearty acknowledgment being accorded to the two honorary secretaries, Mr. G. S. Welham and Mr. Sidney Boyd, for the manner in which they had carried out the duties of their office.

St. Bartholomew's Hospital.—The annual dinner took place on Oct. 1st in the great hall of the hospital. Mr. W Bruce Clarke occupied the chair and 183 persons were present. In proposing the toast of the evening the chairman congratulated the hospital on having passed through the late crisis and referred warmly to the good feeling and close connexion between the hospital and the school. Mr. Alderman Alliston responded, the treasurer being unavoidably absent. He spoke heartily and cheerfully of the future and in behalf of the lay administration thanked the chairman for his cordial expressions of loyalty and goodwill. The toast of "The Guests" was proposed by Dr. S. J. Gee, who expressed the hearty desire of the school to contribute toward the success of the University of London. The Principal of the University, Sir A. W. Rücker, in responding, referred warmly to the energy and capacity shown by Mr. H. T. Butlin as Dean of the Faculty of Medicine and gave some remarkable figures to illustrate the increase in the number of undergraduates. Mr. Butlin then proposed the health of the chairman and with the usual vote of thanks to the secretary the dinner ended.

St. George's Hospital.—There was a record attendance at the annual dinner of the medical school held on Oct. 1st in the Whitehall Rooms of the Hotel Métropole. The chair was occupied by Dr. T. Clifford Allbutt, Regius Professor of Physic at the University of Cambridge, who in proposing the toast of the evening expressed his conviction that the time had come when more research work must be accomplished at the great hospitals of the metropolis. The ordinary clinical material should be used not only for the benefit of the patients attending the hospitals but for the purpose of guiding scientific thought and enriching medical science. In this way it would be possible to make medical discoveries which would inevitably promote the well-being of the general public. To their infinite credit the governors of St. George's Hospital had approved of the principle that the medical men who gave their entire time to the services of the hospital in positions such as that of medical registrar should do so free from financial embarrassment. That was a new departure and they were all agreed that it was eminently calculated to advance English medicine. The toast was responded to by the dean, Dr. Arthur Latham, who said he was glad to state that St. George's Medical School still stood at Hyde Park Corner. Success had attended their efforts in every department during the past year and the prospects of continued success were never greater. As Professor Allbutt had said, owing to the enlightened policy of the governors, St. George's Hospital Medical School was now in a position to offer greater facilities to men who wished to devote themselves to medical and surgical research after obtaining their qualifications than any other hospital in England. A number of other toasts were honoured. Professor G. Sims Woodhead, responding for the toast of "The Guests," said that he esteemed it a great honour to be allowed to dine with St. George's men. He congratulated the school on its well-deserved success and on its virility. During the evening it was suggested that a hearty greeting should be sent to Dr. E. A. Wilson who was icebound in the Antarctic circle on board the *Discovery*. The suggestion met with the approval of the chairman and the enthusiastic indorsement of everybody attending the banquet.

University College Hospital.—Dr. Walter Rigden presided on Oct. 5th at the annual dinner of the old and present students of University College Hospital, which was held at the Hotel Cecil. The first toast after that of "The King" was proposed by Dr. Frederick T. Roberts and was that of "The President of the Royal College of Surgeons of England." Dr. Roberts explained that Mr. John Tweedy, the President, had been called away from London and was unable to be present. He congratulated the Royal College of Surgeons of England on its choice and was glad to see it widening its electoral field by selecting for the first time an ophthalmologist to the honourable post of president. Dr. Rigden proposed "The Medical School and University College Hospital," which was responded to by the dean of the faculty of medicine, Dr. Sidney H. C. Martin, who discussed the question of proper endowment for the prosecution of higher research studies. The majority of men found it so hard to make a living that they had no time for research. Well-paid professorships were required of such value that men could live on them and then men would be found to investigate the processes of disease. Mr. Christopher Heath, in a eulogistic speech, proposed the health of the chairman, which Dr. Rigden acknowledged. An enjoyable evening was concluded by a speech from Dr. E. Rayner of Stockport in praise of the successful efforts of the two honorary secretaries for the dinner, Mr. Raymond Johnson and Dr. H. B. Shaw.

King's College Hospital.—The old students of King's College Hospital held their annual dinner at the Hotel Cecil on Oct. 1st. For the last few years this gathering has been more fully recognised as a means of reviving old friendships of student days and on the present occasion the average of attendances was well maintained. Dr. C. H. Allfrey of St. Leonards-on-Sea, a past student whose record dates back to the early "sixties," was in the chair and that his selection for the post was a happy one was evidenced by the number of personal friends and contemporaries who were present to support him and by the admirable manner in which he presided. The Rev. A. C. Headlam, the recently appointed principal of the college, was an honoured guest, and Sir John A. Cockburn, K.C.M.G., himself a former student, who had delivered the address and distributed the prizes at the formal opening of the medical session in the afternoon, also attended. The past members of the staff were represented by Dr. I. Burney Yeo and the majority of the existing staff were present in person. Lieutenant Colonel A. T. Sloggett, C.M.G., R.A.M.C., responded to the toast of "The Services," proposed by Mr. W. Watson Cheyne, C.B. The toast of the evening, "King's College and King's College Hospital," was proposed by the chairman and responded to by the Rev. A. C. Headlam. Mr. Reid, Mr. Hughes, Mr. Turtle, and Mr. Dunkerton contributed an excellent selection of music. Greetings were exchanged with the Charing Cross Hospital dinner, which was being held in the same building, and altogether a very enjoyable evening was spent.

St. Mary's Hospital.—The annual dinner of the past and present students was held in the Whitehall Rooms of the Hôtel Métropole on Oct. 2nd, Dr. R. Farquharson, M.P., being in the chair. There was a good attendance, 175 being present, and the guests included Mr. Henry Harben, chairman of the hospital board, Sir A. W. Rücker Principal of the University of London, and Mr. F. G Hallett. The loyal toasts proposed by the chairman were duly honoured. The chairman in proposing "Prosperity to St. Mary's Hospital Medical School" said that the toast recalled old memories to him as a physician and former

student of the hospital. The progress of St. Mary's Hospital during the last 40 years had been extraordinary, and he attributed this to the strength of its staff and the high traditions of work and duty which it had established. He recalled the services of the late Mr. Samuel Lane and Mr. James Lane to whom the hospital owed so much, and congratulated the school on retaining the services of the third generation in the person of Mr. Ernest Lane. The Dean, in replying for the teaching staff, referred to the growing numbers and increasing influence of their past students in every department of professional work. Captain Rogers, I.M.S., replied for the past students and Mr. J. R. Rous for the present students. Mr. Page gave the toast of "Our Guests," coupled with the names of Mr. Harben and Sir Arthur Rücker. Sir Arthur Rücker, in replying, congratulated the school on the increase of its students this session. He was glad to say that there had been a general increase in the university entries. In June there were 700 more candidates and in September 400 more for matriculation than in the previous year. The work of coördination had received an important stimulus from the work of Dr. Waller in relation to the higher teaching in physiology, and similar advances had now been made in biology and in the faculty of arts. Sir William Broadbent proposed the health of the chairman who in his reply said that many years ago he had severed his connexion with St. Mary's Hospital with great regret, and that was only atoned for by anything he might have done to promote the welfare of the medical profession.

Looking Back.

FROM

THE LANCET, *SATURDAY*, OCT. 8, 1825.

THE INTRODUCTORY ANATOMICAL LECTURES DELIVERED IN LONDON ON THE FIRST OF OCTOBER, 1825.

WE this week present out readers with the introductory addresses of all the anatomical lecturers of London, with the exception of those of Mr. Carpue and Mr. Mayo.[1] The former of whom is not in the habit of delivering an introductory lecture, which, to use his own expression, he considers a *flash in the pan;* and the latter called at our office for the express purpose of stating that he objected to the publication of his lecture. We did not attempt to inquire into the grounds of Mr. Mayo's objection, but we are disposed to give him credit for having exercised a sound judgment. Posterity may, indeed, suffer from Mr. Mayo's resolution, but as cruelty to posterity is not yet made an offence by the humane Mr. Richard Martin, we know not how to avert the threatened calamity, if Mr. Mayo chooses to continue inexorable.

Mr. Mayo is a private lecturer, and he has a right therefore to exercise his own discretion with respect to the publication of a private lecture; but our friend Mr. ABERNETHY stands, we maintain, in a very different situation, and we have no scruple, therefore, in publishing *his* introductory lecture, in order to complete the series, even though he may on this, as on former occasions, be inclined to recalcitrate. As a Hospital lecturer, independently of the monopoly which he has procured for himself by the College Bye-law, he must abide by the consequences of his situation; we are anxious to bring this question to a fresh hearing; we are prepared to meet our friend, even though he should think fit to invade the retirement of Lord ELDON for a fresh injunction. Mild and gentle as we know Mr. Abernethy to be in all other respects, as a public Hospital lecturer we consider him as much *feræ naturæ* as the partridges which the Lord Chancellor, not having the fear of Richard Martin before his eyes, is now bagging at Encombe.

The order in which the lectures stand, has been adopted with a view to our convenience, and is by no means to be considered as a test of their respective merits.

[1] The addresses reported are by the following lecturers:—Mr. Abernethy, Theatre of Anatomy, St. Bartholomew's Hospital; Mr. Brookes, Theatre of Anatomy, Blenheim-street; Mr. Bransby Cooper, New Theatre, Guy's Hospital; Mr. Headington, Theatre, London Hospital; Mr. Grainger, Theatre of Anatomy, Webb-street, Maze Pond; Mr. Sleigh, Theatre of Anatomy, Chapel-street, Grosvenor-square; Mr. Dermott, New Theatre of Anatomy, Little Windmill-street, Golden-square; Mr. Charles Bell, Theatre of Anatomy, Great Windmill-street; and Mr. Green, Theatre, St. Thomas's Hospital.

ASYLUM REPORTS.

Dundee Royal Asylum (Annual Report for 1902).—The average number of patients resident during the year was 436, comprising 176 males and 260 females. The admissions during the year amounted to 201—viz., 87 males and 114 females. Of these 155 were first admissions. Dr. James Rorie, the medical superintendent, states in his report that the advanced age of many on admission still continues to be a prominent feature, one patient being 67, one 69, three 70, one 72, one 73, one 75, and one 81 years old. Of the admissions 28 were paupers from other asylums. The physical condition of the patients on admission has been very similar to that of former years. The number of patients discharged as recovered during the year amounted to 59—viz., 25 males and 34 females, or 13·5 per cent. of the average number resident. The deaths during the year amounted to 40, or 9·1 per cent. as calculated on the same basis. Of the deaths three each were due to cardiac disease and cerebral paralysis, four to pulmonary tuberculosis, five to senile decay, ten to general paralysis of the insane, and the rest to other causes. "The principal feature in the mortality," says Dr. Rorie, "is again the large number of deaths due to general paralysis, this and other organic brain diseases accounting for 55 per cent. of the total number of deaths." The mortality has been chiefly amongst those recently admitted. One patient, however, had been a resident in the asylum for over 54 years. "For a considerable time he had been out on parole and had practically complete freedom. Being in possession of a small annuity he was in the habit of taking his sister with him to various parts of the country for a fortnight's holiday yearly. The delusions from which he suffered were of a harmless nature towards the end of his career but remained vivid to the last." In consequence of the recent serious accident by fire at Colney Hatch Asylum, London, the arrangements for extinguishing fire have been carefully inspected by the superintendent of the Dundee fire brigade and found equal to meet all contingencies. The Commissioners in Lunacy state in their report that the patients were found to be in a satisfactory condition as regards clothing and personal neatness, that the care and treatment of the sick and of newly admitted patients continued to be skilful and efficient, that all parts of the institution were in good order, and that the medical case-books and registers were found to be accurately and well kept. The committee of management states in its report that arrangements are in progress for the purchase of a property and buildings at Westergreen to increase the capacity of the asylum. The conditions of sale and purchase require the sanction of Parliament and a Bill authorising the purchase has passed through both Houses and only awaits the Royal Assent.

Lincoln County Asylum, Kesteven (Annual Report for 1902).—The asylum was opened in June, 1902. The average number of patients resident during the year was 146, comprising 64 males and 82 females. The admissions during the year amounted to 93—viz., 25 males and 68 females. Of these 40 were first admissions. Dr. J. A. Ewan, the medical superintendent, states in his report that the chief event of the year was the removal of the patients accommodated at the temporary asylum at Grantham to the present building, which was accomplished without mishap on June 20th, 1902. Of the admissions 40 were brought directly from the unions of the county of Lincoln. Of these "a large proportion consisted of the restless, old and feeble, or paralysed, who undoubtedly require care and nursing; and for this class of case such attention at present, in country districts at least, can seemingly only be obtained in a lunatic asylum, although, perhaps, the workhouses would be a more fitting shelter." Only about 25 per cent. of those admitted were deemed curable. The number of patients discharged as recovered during the year amounted to eight—viz., four males and four females, or 5·4 per cent. of the average number resident. The deaths during the year amounted to 17—viz., 11 males and six females, or 11·6 per cent. as calculated on the same basis. Of the deaths two each were due to epilepsy and bronchitis, three to general paralysis of the insane, four to cardiac disease, and the rest to other causes. "It is satisfactory to note," says Dr. Ewan, "that tubercular disease was again absent from the death list." The male wards are still in an unfinished condition but all those on the female side have been coated with duresco and five out of the seven are in full occupation. One ward has been set aside for paying patients and it is intended to

receive at the lowest possible remuneration consistent with a more liberal diet and extra nursing those whose means do not permit of their being sent to one of the more expensive private asylums. The grounds are already fairly well planted with trees and shrubs; the farm and orchard are not yet fully under cultivation, but it has been possible to grow enough potatoes, turnips, oats, and hay for the requirements of the institution. The weekly charge of maintenance has remained at 12*s.* 10*d.* per patient. The Commissioners in Lunacy state in their report that the asylum is designed to accommodate in the first instance 420, and ultimately, by the addition of two more blocks, 600 patients. The design, structure, and workmanship displayed in the building seemed to be excellent and the occupied wards were suitably furnished. They add that the condition of the patients was satisfactory and that the medical case books were properly kept. The committee of management states in its report that the making of roads and the planting and laying out of the grounds have been nearly completed and that the building is lighted throughout with electricity.

Earlswood Asylum, Surrey (Annual Report for 1902).—The average number of patients resident during the year was 515, comprising 336 males and 179 females. The admissions during the year amounted to 56—viz., 38 males and 18 females. Of these 49 were first admissions. Dr. Charles Caldecott, the medical superintendent, states in his report that 23 out of the 56 admissions showed a history of insanity or idiocy in the parents, while in 22 cases the cause of the illness was attributed to troubles connected with pregnancy and parturition. "It is gratifying," adds Dr. Caldecott, "to record a larger number of younger cases, many of whom already give promise of progress in the school or shop; on the other hand, a few must be classed as 'custodial or untrainable' and one or two will be chronic infirmary cases." The number of patients discharged as relieved during the year amounted to 34, or 6·6 per cent. of the average number resident. The deaths during the year amounted to 13—viz., six males and seven females, or 2·5 per cent. as calculated on the same basis. Of the deaths, one each was due to apoplexy, renal disease, intestinal obstruction, and influenza, three were due to epilepsy, and six to pulmonary and other forms of tuberculosis. Post-mortem examination was made in ten cases of death, or 77 per cent. The low death-rate is "a record for 44 years, with one exception, and appears little short of marvellous when allowance is made for the fact that six patients have been in residence over 50 years, 44 patients over 40 years, and no less than 102 [patients] over 30 years." 61 males and 31 females have had 7974 fits during the year. The general health of the patients has been good during the year and minor ailments such as coughs, colds, and chilblains have been less numerous than formerly, a fact attributable to the improved condition of the atmosphere of the buildings as a result of recent alterations in the lighting, heating, ventilating, and sanitary arrangements. The reports of the head mistress and head master of the schools and workshops and of the house steward state that good progress is being made by the patients who attend as pupils and workers in these two departments. The Commissioners in Lunacy state in their report that the large proportion of deaths from tuberculosis "emphasises the importance of some separate provision being made for the treatment of this class of disease which is now recognised as of an infectious character." All parts of the institution were found to be in good order at the visit, the rooms were bright and cheerful, the beds and bedding were in good condition, and signs of progress were visible everywhere. The committee of management states in its report that steps are being taken to increase and to improve the means of exit in case of fire at an estimated cost of £2000.

PUBLIC VACCINATORS AND THE VACCINATION ORDER OF 1898.—The departmental committee appointed by the President of the Local Government Board to inquire and to report with regard to the payments made to public vaccinators and vaccination officers under the Vaccination Order, 1898, heard on Oct. 1st the evidence of Mr. Joseph Brown, president of the Association of Poor-Law Unions in England and Wales, Mr. F. W. Dimbleby, senior vice-president of the association, and Mr. A. F. Vulliamy, a member of the association and clerk to the Ipswich board of guardians. The committee has already heard the evidence of the official witness, Mr. W. W. Conolly, principal clerk of the public health department of the Local Government Board.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Southampton Port Sanitary District.—The port of Southampton has within recent years increased enormously in importance and such expansion has been accelerated very materially by the fact that this port is now almost the sole centre of embarkation and disembarkation of troops leaving and returning to this country. Hence it comes about that the proper administration in a sanitary sense of the port of Southampton is a national matter. Some idea of the additional work which the late war in South Africa imposed upon the Southampton port sanitary authorities may be gathered from the fact that during 1902 no fewer than 472,927 persons arrived in Southampton by sea, this number being an increase of 123,000 over that of 1901. The efficient manner in which the duties of the port sanitary officials were performed may be inferred from the fact that no case of plague or cholera was introduced into the town during the year although a large number of vessels arrived from plague- and cholera-infected ports. As regards the introduction of non-exotic infectious diseases it is interesting to note that during 1902 as many as 127 cases of enteric fever were landed at Southampton and removed to hospital, and among other cases of illness which were landed we notice 145 of malaria, 16 of dysentery, 65 of venereal diseases, and 107 of pneumonia. Only one case of yellow fever was reported to have occurred on board a vessel bound for Southampton and this case was landed at Buenos Ayres. Of the 138 transports which arrived in Southampton during the year under review 118 were from South Africa and 12 were from Bombay. Of the total 4530 vessels of all kinds which arrived 4007 were British and 258 were German. The amount of work involved in dealing with all these transports and other vessels shows that the post of medical officer of health, which is at present filled by Mr. R. E. Lauder, is very far from a sinecure.

Metropolitan Borough of Poplar.—Mr. F. W. Alexander states in his current annual report that 14 cases of enteric fever were "directly traceable" to the eating of shell-fish, but in only two of these cases is any statement supplied as to the dates at which the shell-fish were eaten. The fact that in several instances the shell-fish (cockles) had come from Southend is presumptive evidence that the cockles were likely to have caused the disease, but in the absence of the dates even this is perhaps rather straining the logical position. One patient is stated to have eaten oysters a month previously and another had eaten cockles from Margate. Doubtless Mr. Alexander possesses all the needful information to incriminate both the cockles and the oysters but it is desirable, when possible, to furnish the dates as well as the sources of the shell-fish. As Dr. J. T. C. Nash of Southend has shown, cockles were in all probability instrumental in causing much enteric fever at Southend but it does not follow that everyone who subsequently develops enteric fever owes the attack to having eaten Southend cockles. Attention has been given in Poplar to the presence of preservatives in milk and during 1902 13·6 per cent. of the samples of milk examined contained either formalin or boric acid. The percentage of formalin present amounted to 0·02, while the amount of boric acid ranged from 0·2 to 0·01 per cent. In butter the boric acid ranged from 0·04 to 0·8 per cent.

The Port Sanitary District of Manchester.—The total tonnage of shipping borne to Manchester upon the waters of the Manchester Ship Canal is increasing year by year and with it there is, of course, also an increase in the amount of sickness introduced into the port. The work of the port sanitary officials has also been increased by virtue of the fact that the port sanitary authority has taken over the work of inspecting the canal boats within the port limits. When it is borne in mind that there are wharves and lay-byes where vessels can discharge their cargo throughout the 35 miles of the canal it is clear that the time of one medical officer of health and two inspectors must be often severely taxed. During 1902 there were 140 cases of sickness dealt with but only a small portion of these belonged to the communicable diseases concerning which precautions are taken in this country. Dr. A. M. N. Pringle, the medical officer of health, raises a very important general question in his

report as regards the sanitary condition of ships, a matter which should, in our view, receive the attention of the Local Government Board. The construction of new vessels is governed entirely by the Merchant Shipping Act, under the provisions of which it devolves upon the Board of Trade surveyors to examine a ship and to give a certificate that the vessel complies with the requirements of the Board of Trade. These surveyors have practically no training in sanitary matters and they are unable to exercise an adequate influence over the construction of vessels in a sanitary sense. Now Dr. Pringle alleges that it is by no means infrequent to find glaring contraventions of the Merchant Shipping Act on perfectly new ships. The surveyor's attention is, perhaps naturally, turned more particularly towards the question of the seaworthiness of the vessel and he pays but small regard to its sanitary condition. Although there is a minimum cubic space provided by the Merchant Shipping Act for each member of the crew, it is, we fear, true that the general sanitary condition of the forecastle is by no means sufficiently attended to and there is obviously a difficulty in insisting upon alterations in the case of a new ship provided with a quite recent certificate from the Board of Trade surveyor. All those who are at all familiar with the sanitary condition of vessels will, we think, agree with Dr. Pringle that there is need for reform and that this reform should take the shape of submitting the plans of new vessels to the port sanitary officials. There should, in a word, be just the same control over the construction of ships by port sanitary authorities as obtains on land in the case of new houses. Dr. Pringle's report furnishes a table which affords an admirable object-lesson of the point which he urges. Among the defects in connexion with the lighting of crews' quarters we find 78 cases in which the insufficiency of light is due to inadequate window accommodation, and among defects in ventilation 94 cases were due to insufficiency in the ventilating apparatus provided. Out of the 2477 vessels inspected during 1902 no fewer than 870 exhibited insanitary conditions in some form or other.

Croydon County Borough.—Dr. H. Meredith Richards has been instrumental in introducing a system of voluntary notification of pulmonary tuberculosis into Croydon. But he wishes it to be understood that he holds no extremist views as to the "infectiousness" of the disease. We are glad to see that he agrees largely with Sir Hugh Beevor and holds with the views which we have recently given expression to in a leading article in our columns. As Dr. Richards remarks, it is a misuse of language to speak of the infectiousness of tuberculosis as in any way comparable with that of measles or small-pox, and all epidemiologists will agree with him that the truest progress is to be made in promoting generally the resistance of the individual. The system which is in vogue in Croydon of the notification of diseases which occur among school children should lead to valuable results, more especially with respect to those cases which are notified under the heading of "sore-throat." During 1902 there were 358 cases of ringworm and 360 cases of chicken-pox notified. It is to be hoped that the corporation of Croydon, now that it has become the educational authority, will, under the advice of Dr. Richards, set an example in the direction of thoroughly up-to-date school buildings and in the periodical examination of school children, not only as regards communicable diseases but as to the condition of their special senses and their general physical condition. As Dr. Richards observes, "most brilliant scholastic achievements would be dearly bought at the expense of permanently impaired health."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8067 births and 4424 deaths were registered during the week ending Oct. 3rd. The annual rate of mortality in these towns, which had been 15·8, 16·5, and 16 3 per 1000 in the three preceding weeks, further declined last week to 15·3 per 1000. In London the death-rate was 14 1 per 1000, while it averaged 15·9 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6 3 in Handsworth, 7 6 in East Ham, 7·8 in West Bromwich, 7·9 in Aston Manor, 8·2 in Willesden, 8·6 in Hornsey, 8·7 in Northampton, and 9 0 in King's Norton and in Wallasey; and the highest rates 20 2 in Swansea, 20·3 in Middlesbrough, 20·9 in West Hartlepool, 21·0 in Wigan and in Salford, 21·9 in Rotherham, 22·1 in Great Yarmouth, 22·6 in Merthyr Tydfil, and 25 1 in Newcastle-on-Tyne. The 4424 deaths in these towns last week included 697 which were referred to the principal infectious diseases, against 924, 918, and 752 in the three preceding weeks; of these 697 deaths, 495 were referred to diarrhœa, 52 to diphtheria, 41 to "fever" (principally enteric), 38 to measles, 38 to whooping-cough, 31 to scarlet fever, and two to small-pox. No death from any of these principal infectious diseases was registered last week in Tottenham, Barrow-in-Furness, or Tynemouth; among the other towns they caused the lowest death-rates in Hornsey, Willesden, Brighton, King's Norton, Grimsby, Rochdale, and Halifax, and the highest rate in Walthamstow, Southampton, Great Yarmouth, Hanley, Coventry, Bootle, Burnley, Middlesbrough, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Warrington; from diphtheria in Reading; from whooping-cough in York and Rhondda; from "fever" in Merthyr Tydfil; and from diarrhœa in Walthamstow, Southampton, Great Yarmouth, Hanley, Coventry, Bootle, Burnley, Middlesbrough, and Merthyr Tydfil. The mortality from scarlet fever showed no marked excess in any of the large towns. One death from small-pox was recorded last week in Hanley and one in Newcastle-on-Tyne, but none in any other of the 76 large towns. The number of small-pox patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 46, 41, and 29 on the three preceding Saturdays, had further declined to 21 on Saturday last, the 3rd inst.; one new case was admitted during last week, against nine, seven, and one in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital at the end of last week was 1877, against 1772, 1803, and 1886 at the end of the three preceding weeks; 235 new cases were admitted during the week, against 212, 261, and 293 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 122, 128, and 134 in the three preceding weeks, further rose last week to 161, and were 12 above the number in the corresponding period of last year. The causes of 42, or 0·9 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Salford, Leeds, Hull, Newcastle-on-Tyne, and in 54 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Manchester, Sheffield, Middlesborough, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 14·4, 16·1, and 16 8 per 1000 in the three preceding weeks, further rose to 17·3 per 1000 during the week ending Oct. 3rd, and was 2·0 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·7 in Leith and 14·3 in Greenock, to 18·6 in Perth and 18·8 in Dundee. The 568 deaths in these towns included 42 which were referred to diarrhœa, seven to whooping-cough, six to "fever," four to measles, four to diphtheria, and two to scarlet fever, but not one to small-pox. In all, 65 deaths resulted from these principal infectious diseases last week, against 77, 51, and 77 in the three preceding weeks The 65 deaths were equal to an annual rate of 2 0 per 1000, which was 0·4 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 52, 19, and 44 in the three preceding weeks, declined again last week to 42, of which 21 occurred in Glasgow, five in Edinburgh, five in Dundee, five in Leith, two in Aberdeen, and two in Greenock. The deaths from whooping-cough, which had been nine, 10, and nine in the three preceding weeks, further declined to seven last week, and included five in Glasgow and two in Edinburgh. The deaths referred to different forms of "fever," which had been seven, five, and seven in the three preceding weeks, decreased last week to six, of which four were registered in Glasgow. The fatal cases of measles, which had been eight and five in the two preceding weeks, further declined to four last week and included three in Glasgow. The deaths from diphtheria, which had been two, six, and eight in the three preceding weeks, declined again last week to four, of

which three occurred in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 52, 71, and 84 in the three preceding weeks, further rose last week to 88, and were slightly in excess of the number in the corresponding period of last year. The causes of 26, or nearly 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 18·7, 19·5, and 21·7 per 1000 in the three preceding weeks, declined again to 18·3 per 1000 during the week ending Oct. 3rd. During the 13 weeks ending on that date the death-rate averaged 18·9 per 1000 the rates during the same period being 14·1 in London and 14·5 in Edinburgh. The 133 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 25 from the number in the preceding week and included 5 which were referred to the principal infectious diseases, against 10, 17, and 16 in the three preceding weeks; of these, two resulted from "fever" and three from diarrhœa, but not one from small-pox, measles, scarlet fever, diphtheria, or whooping-cough. These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates from the principal infectious diseases during the same period being 2·2 in London and 1·9 in Edinburgh. The deaths from diarrhœa, which had been seven, five, and 14 in the three preceding weeks, declined again to three last week. The fatal cases of "fever," which had been one, three, and one in the three preceding weeks, rose again last week to two. The 133 deaths in Dublin last week included 33 of children under one year of age and 34 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons showed a marked decline from the numbers in the preceding week. Six inquest cases and five deaths from violence were registered, and 42, or more than a third, of the deaths occurred in public institutions. The causes of five, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

INDIAN MEDICAL SERVICE.

THE subject of the salaries of officers in civil employ, referred to in paragraph 19 of the Memorandum of October, 1903, is now under the consideration of the Government of India.

ROYAL ARMY MEDICAL CORPS.

Surgeon-General W. J Fawcett, Principal Medical Officer, 3rd Army Corps, is taken on to the establishment of his rank, A.M.S., in consequence of Sir William Wilson, K.C.M.G., having attained the age limit and being retained as a supernumerary. Captain H. N. Dunn has been selected for special employment with the Abyssinian contingent in Somaliland and is ordered to embark for duty at once. Surgeon-Captain R. H. Luce, A.M.R., has assumed medical charge of the station hospital and troops, Derby.

Lieutenant-Colonel A. Baird retires on retired pay (dated Oct. 3rd, 1903); Lieutenant-Colonel R. D. Donaldson retires on retired pay (dated Oct. 3rd, 1903); Captain A. C. Lupton, from half-pay, to be Captain, with precedence next below M. M. Lowsley (dated Sept. 5th, 1903); Lieutenant D. D. Paton is seconded under the provisions of Article 349 of the Pay Warrant (dated Oct. 1st, 1903); Lieutenant-Colonel R. W. Mapleton retires on retired pay (dated Oct. 7th, 1903); Captain A. F. Heaton retires from the service, receiving a gratuity (dated Oct. 7th, 1903).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 3rd Kent (Royal Arsenal): Surgeon-Major A. H Robinson to be Surgeon-Lieutenant-Colonel (dated Oct. 3rd, 1903). 1st Monmouthshire: Surgeon-Captain W. E. James resigns his commission (dated Oct. 3rd, 1903).

Royal Engineers (Volunteers): 1st Gloucestershire: Surgeon-Captain G. H. Ward-Humphreys resigns his commission (dated Oct. 3rd, 1903).

PRIZE DAY AT HASLAR.

The session for the surgeons of the Royal Navy under special instruction at the Royal Naval Hospital, Haslar, terminated on Sept. 30th when the prizes were presented by Admiral J. Durnford, C.B., D.S.O., one of the Lords of the Admiralty. The Director-General of the Medical Department of the Royal Navy, Sir Henry F. Norbury, K.C.B., was also present. The following is a list of the marks gained by the respective officers:—

Name.	Marks.	Name.	Marks.
A. W. Iredell	4238	E. S. Wilkinson	3128
F. C. Robinson	3993	R. Kennedy	3053
C. E. C. Child...	3892	E. A. G. Wilkinson ...	3039
M. T. Male	3856	J. H. L. Page	3017
C. H. Dawe	3661	W. E. Ormsby...	2984
R. Thompson	3620	J. J. H. Rooney	2979
W. K. D. Breton	3545	A. F. Fleming...	2678

The prizes were awarded to F. C. Robinson (gold medal), A. W. Iredell (silver medal and books), and C. E. C. Child (microscope). Sir Henry Norbury, after reading the report of the professors of the medical school, complimented the officers who had been under instruction on their marked application to their studies and their general good conduct which reflected very great credit on them all. He deplored the untimely death of one of their number, Surgeon Illingworth, which had taken place during the session, and then referred to the honour which was being done to them by the presence of Admiral Durnford who had kindly consented to give away the prizes, an officer to whom the Naval Medical Department owed a deep debt of gratitude. He had during his term of office as a Lord of the Admiralty worked hard to understand its requirements and had made untiring and successful efforts for its improvement and he was sure that they were all pleased to see him there that day. Admiral Durnford then distributed the prizes. He said that the report which had been read was a most satisfactory one and two things at once struck him, first, the credit that reflected on the officers concerned, who had worked well and whose conduct throughout the course had been so satisfactory, and, secondly, the credit that was due to his old friends, Fleet Surgeon G. Kirker and Fleet Surgeon P. W. Bassett Smith, whose capacity and teaching ability were well known and very much appreciated. The Director-General had alluded to the great interest that he (the speaker) had taken in the medical department since he had been associated with it. To this he could say that among his various duties no other had been so interesting and that in his endeavours to deal with the many questions relating to the medical, hospital, and nursing service, he had been most willingly and ably helped by the Director-General and his department and that it was a good deal due to their steady work that the various proposals had been brought to a satisfactory conclusion. He said that the medical profession was second to none and that it afforded special opportunities of doing good which were attached to no other. Looking back to the time when he first went to sea—about 40 years ago—no reminiscence, he said, was more vivid than his recollection of the medical officers' work in his first ship on an occasion when, cut off from nurses, hospitals, and their professional brethren on shore, they successfully combated a serious outbreak of small-pox with a simple devotion to duty which all admired. He had also seen them with the same satisfaction on active service and alluded to the heroic conduct of Staff Surgeon W. J. Maillard who was awarded by his Sovereign the coveted distinction of the Victoria Cross and whose death recently they had to deplore. He was a fine young and distinguished officer with high professional attainments who showed a true devotion to duty. The surgeon in a ship held a unique position of friend and adviser and very much depended on him. There were many little things he could do in the matter of his duty in connexion with the health and comfort of the ship's company, and a captain who had a good adviser in the medical officer was materially helped in conducting the service efficiently. A number of changes and considerable improvements had taken place during the last few years and others were in hand. It was desirable that in accordance with the permission recently promulgated surgeons should qualify for staff surgeon after five years' service in order to obtain early advancement. After a vote of thanks to Admiral Durnford, proposed by Inspector-General R. W. Coppinger, the proceedings terminated by a luncheon.

Surgeon-Colonel J. Richardson, retired, I.M.S., has been appointed Honorary Physician to the King in place of Surgeon-General W. R. Rice, C.S.I., deceased.

Correspondence.

"Audi alteram partem."

A NOTE ON THE PRACTICE OF DIRECT OR "IMMEDIATE" AUSCULTATION.

To the Editors of THE LANCET.

SIRS,—The practice of auscultation in the minds of not a few members of our profession is inseparably associated with the use of the stethoscope. Direct or "immediate" auscultation by the application of the ear itself to the chest finds, indeed, respectful mention in text-books, but in practice it is generally either ignored or regarded as an imperfect substitute for stethoscopy. Accident led me some 12 years ago to perceive that the direct method possesses some special advantages of its own; further observation confirmed that belief and for the last ten years I have employed this method systematically and almost exclusively in the examination of the bases and back of the chest, using the stethoscope in those regions, save in infants, for supplementary purposes only. So familiar, indeed, had this practice become to me that I only lately realised how little it was in general use or the advantages of it were recognised. A note upon the subject may, therefore, not be altogether useless.

The conditions of auscultation at the back of the chest, particularly at the bases, differ materially from those in the front and at the sides. The greater thickness of chest wall that sounds originating in the lung and pleura have to traverse before reaching the surface of the back necessarily tends to greater dispersion and greater loss of audibility than is the case elsewhere. The lesions affecting the bases are, moreover, for the most part lesions of wider extension than those for which the apices have to be searched. In auscultation of the back and bases, therefore, exact localisation of signs is, generally speaking, matter of less concern than certainty of detection. The flexible external ear, which admits of being exactly applied to any part of the back, can be used to collect vibrations from a much wider area than is covered by the rigid chest-piece of the stethoscope, the practicable size of which is limited by the curves of the thoracic surface, while the avoidance of the interposing conductor at the same time reduces the loss of sound in transmission. As the area to be explored can be covered by the ear with fewer shiftings of its position than the stethoscope requires, the method has the further incidental advantage of saving the physician's time and sparing fatigue to his patient.

Of the application of the method there is little to be said that is not obvious. The patient sitting up in bed or standing or sitting with the shoulders bent forwards, a napkin or fine towel may be placed over the back of the head and chest and held in position with one hand while the ear of the same side is passed rapidly over the regions to be examined. The tactile sensibility of the ear is generally sufficient for purposes of localisation, but it may be supplemented, if necessary, by the fingers of the disengaged hand. By directing the patient to lift his arm over his head and moving the napkin to cover the axilla direct examination may be extended to the side of the chest. Even if the patient is too ill to sit up it can be conducted without much difficulty if he is made to lie first on one side and then on the other.

The accident which drew my attention to the method was the discovery that in a stout patient the subject of pneumothorax amphoric breathing could be plainly heard over a wide area by the unassisted ear though it was hardly discernible by the stethoscope. I have not again repeated this observation in so marked a form, but a few years' practice of the method was sufficient to convince me that the greater number of auscultatory signs at the back, both respiratory and vocal, are more easily detected, better defined, and more clearly to be discriminated from each other by this method than when the stethoscope alone is used. More particularly I have found this the case:—1. In cases of acute pneumonia when inflammatory consolidation commencing in the deeper parts of the lung is approaching the surface. 2. In other cases of deep-seated consolidation. 3. In the detection of cavernous signs, particularly in the case of cavities of bronchiectatic origin situated in the bases. 4. In the detection of asthmatic sibilus. 5. In the detection and discrimination of moist sounds at the bases, especially those due to œdema of the lungs. I have repeatedly found the fine crepitations indicative of the onset of œdema audible over a considerable area by the ear directly applied when nothing was discernible by the stethoscope. At all stages of œdema I find the character of the râles and crepitations due to it more precisely defined by direct auscultation, so that it is possible more certainly to separate them from the râles and crepitations of bronchitic or pneumonic origin by which they may be accompanied. 6. Most markedly in the diagnosis of pleural effusions and the determination of indications for paracentesis. In some of the most recent works on diseases of the chest I find it stated that over the seat of considerable accumulations of fluid in the pleural cavity, besides dulness, immobility, and absence of vocal fremitus, we should expect to find a diminution or total absence of the breath and voice sounds. In children, it is added, tubular breathing and bronchophony may be heard, but only exceptionally in adults. If so uniform an account may be taken to represent the general experience of clinicians I am forced to infer that the more customary methods of examination fail to reveal all that may be detected by direct auscultation. Over the area of any considerable accumulation of fluid in the adult chest, be its origin inflammatory or dropsical, the unassisted ear, according to my own experience, seldom or never fails to discern a more or less distant but quite distinct tubular breathing and bronchophony, commencing at or about its upper margin and extending to the base.

The tubular sounds thus heard, except in some extreme accumulations, have a special quality of their own which is characteristic, which after a little practice it is not easy to mistake, and which enables them to be distinguished without much difficulty from the similar sounds produced by pneumonic consolidation. The difference is not merely one of "distance" or faintness; it is as markedly one of pitch. The pitch of both sounds is always high, much higher than is usual in inflammatory consolidation of the base, though a similar pitch is not rarely found in apical pneumonia. The breath sound is always "dry," never broken by crepitations. The bronchophonic sound is not to be confounded with ægophony. I have for many years regarded and pointed out these sounds as the most trustworthy signs we possess of an accumulation of fluid and the most definite indication for paracentesis should the circumstances of the case otherwise suggest it.

As a practical diagnostic criterion I have found them of no small value. The diagnosis of a fluid accumulation, when it has reached such a degree as to distend the side of the chest, to deflect the mediastinum, to raise the ribs, and to cause the intercostal spaces to bulge, is usually a simple matter, but in the treatment of pleurisy we cannot afford to wait till these extreme results develop and paracentesis may become desirable while the quantity of fluid is still far short of that necessary to produce them. 30 ounces of fluid or even more may be present in the chest and recoverable by tapping without any of these obvious signs of its presence being available, and the distinction between an accumulation of fluid and a fibrinous pleurisy, apart from the signs I have described, is in such cases not free from difficulty. So great, indeed, is the difficulty that many experienced clinicians profess to regard an exploratory puncture as the only certain means of decision unless the aid of radiography happens to be available. A loose fibrinous layer of moderate thickness may cut off not only the vocal fremitus but the respiratory and voice sounds as effectually as a layer of fluid. Measurement of the chest cannot be relied on; few chests are quite symmetrical and the side containing a fluid effusion may show no greater, or even a lesser, girth than the sound side. Minor degrees of displacement of the heart cannot, for many reasons, be always certainly determined. Neither the rate of respiration nor the patient's symptoms give trustworthy guidance. The rate may be rapid and the breathlessness severe in a purely fibrinous case. On the other hand, I have removed 40 ounces of fluid from the chest of a patient whose respiration-rate was only 24 and over 30 ounces from one who complained of no trouble of breathing at all. The area of vertical extension of a pleurisy may, moreover, be seriously deceptive, especially when fluid has accumulated between the lung and the diaphragm. On one occasion I took 37 ounces of serous fluid from a patient in whom the signs of effusion extended no higher than the ninth dorsal spinous process behind and the seventh rib in the mid-axillary line. In such a case one would have expected to find the action of the diaphragm seriously interfered with, but a fair amount of abdominal respiration was

actually present. I was guided to the operation solely by the presence of the distant tubular breathing and bronchophony of the quality I have attempted to describe.

It would be vain to claim an absolutely invariable significance for any group of physical signs found in the chest, but as far as my observations go these signs possess as constant a significance as can be predicated of any that we know. I have never failed to find abundant fluid in performing paracentesis where they were present; I can scarcely recall an instance in which an exploratory paracentesis yielded more than a few ounces of fluid unless they were to be heard. If these facts alone should be found to be of general application I shall, I think, need no further excuse for having invited a more systematic attention to the practice of direct auscultation than it obtains at present.

I am, Sirs, yours faithfully,

ISAMBARD OWEN, M.D. Cantab., F.R.C.P. Lond.

Sept. 29th, 1903.

THE TRANSMISSION OF YELLOW FEVER.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 1st, p. 345, in the letter of your special correspondent in New York, mention is made of me as one of the physicians who are not entirely in accord with the conclusion of the United States Army Yellow Fever Board of 1900 that "the female mosquito of the species stegomyia fasciata is the only and exclusive conveyor of yellow fever from one person to another." What I consider scientifically vulnerable points in the series of experiments carried on by the Yellow Fever Commission of 1900 in the island of Cuba are the following, some of which your correspondent has quoted. The house in which the experiments were made was an artificial house, under completely abnormal conditions never to be found in a living Cuban house. It was more in the nature of an autoclave than a dwelling-place. This house was not located in the city of Havana, as it should have been but outside in the country, nine kilometres away to the south west, and at about four kilometres from the sea coast, where the recognised dangerous sea air could not reach it. There was not due care in the selection of the non-immune persons with whom the infection experiments were made, probably some already immunes to yellow fever being among them. These individuals experimented with did not remain all day in that house but only went in there to sleep after dark and early in the morning came out of the house and with changed clothes remained all the rest of the day in the open air in tents placed at a distance. I call this unsteadiness, this ebbing and flowing of the experiments, a sort of Penelope's work. Besides, it is a well-known physiological law that during sleep the human organism is at its minimum of energy and activity, the nearest to death. The time selected to try the infection experiments, therefore, was precisely when the organism of those experimented with was the least liable to contract the disease. In spite of all those favourable circumstances the statistics presented (44·4 per cent.) are not, in my opinion, sufficiently convincing.

A few facts which demonstrate that hygiene, sanitary reforms, isolation of the sick patients, the absence of the large number of poorly nourished, poorly clad, and generally neglected Spanish soldiery, and the immigration department and observation hospital in connexion with it established by the United States Government have been more powerful factors in the eradication of yellow fever from the island of Cuba than the mere protection of sick patients from the bites of mosquitoes, are the following. In the city of Havana alone mosquitoes have been killed and crude petroleum has been used in their breeding places to extirpate yellow fever. In no other city or town of the island has this measure been put into practice and yet yellow fever has disappeared not only from Havana but equally as well from Santiago, Matanzas, Cienfuegos, Cárdenas, Sagua, Manzanillo, Gibara, and all the other cities and towns of the island, no matter how great the distance from Havana. With the American occupation of Cuba from 140,000 to 160,000 Spanish soldiers went immediately out of it and were sent back to their native country. The large number of the Spanish Government civil employés who every month used to go to Cuba, all of them non-immunes to yellow fever, do not go now any more to that island. This immense amount of human flesh, which constituted before the fuel that kept burning the funeral pile of yellow fever victims, has completely been put out of the island. In consequence of the cleanliness, the sanitary reforms, the considerably better hygiene public and private, and the prophylactic measures instituted by the United States Government in Cuba and continued by the present Cuban Government, not only yellow fever, but also small-pox, both of which diseases were there formerly epidemic, have been eradicated and the general death-rate in each and every city all over the island has considerably decreased. The newly established immigration department and its stringent laws have also greatly contributed to the eradication of yellow fever in Cuba.

I am, Sirs, yours faithfully,

A. M. FERNANDEZ DE YBARRA, B.A., M.D.,
Medical Biographer of Christopher Columbus.

New York, August 15th, 1903.

THE MEDICAL REGISTER.

To the Editors of THE LANCET.

SIRS,—In the interests of the profession may I ask you to be good enough to draw attention in your next issue to the importance to practitioners of keeping their addresses correct in the Medical Register. The chief points to which attention should be called are:—

1. The Register should not be confused with the Medical Directory as is so often done. Changes should be notified to this office by practitioners themselves and they should be careful to notice that a postcard is received in acknowledgment.

2. The present system is to send a circular of inquiry to one-third of the practitioners on the Register residing in the United Kingdom, from whom no communication has been received during the past 12 months, in each successive year during the period when there is no election of Direct Representatives. This year circulars were sent to practitioners from A to G inclusive and any person within those letters who has not received a circular should communicate with this office at once.

3. Anyone who is doubtful if his address is correct should inquire at the office without delay.

In past years you have kindly done your best to assist me in my efforts to save practitioners from the grave inconvenience of finding that their names do not appear on the Register because their whereabouts cannot be ascertained and I hope, therefore, that you will continue to give us the benefit of your valuable assistance in the matter.

I am, Sirs, yours faithfully,

H. E. ALLEN, Registrar.

229, Oxford-street, London, W., Oct. 2nd, 1903.

THE PREVENTION OF HORSE-DUNG IN THE STREETS.

To the Editors of THE LANCET.

SIRS,—With all the hygienic improvements hitherto effected no attention seems to have been paid to the prevention of the streets of towns from being contaminated by the dung of carriage horses. It is true that a great deal of money is expended in sweeping up the dung but it is never effectual, for part of the fluid and semi-fluid constituents adhere to the ground and by decomposing, especially in warm weather, diffuse an offensive smell through the whole atmosphere which people have to breathe, whether in the streets or in their own houses. Add to this the nuisance of clouds of dust, consisting to a great extent of fine particles of dried dung laden with an abundance of microbes of various kinds, blown about and taken into the mouth and lungs at every breath or eaten up with the provisions exposed for sale in the shops.

All this cannot be without injurious effects upon the health of the inhabitants of a town and it might even be the means of disseminating certain diseases in man as well as in animals. It is no less objectionable from an æsthetic point of view. It being therefore undeniable that the existing state of things is a great nuisance and is put up with simply because no effectual remedy had hitherto been proposed, I have tried for some time to solve this sanitary problem in a radical manner and think I have succeeded.

I have constructed a simple apparatus which I call "an automatic dung trap" for carriage horses which entirely prevents any of the droppings and even the urine from falling on the roads. I inclose a photograph of a horse and carriage to illustrate the apparatus as applied for actual use. On slightly magnifying the parts become very clear. It consists of a suitable receiver or dung trap fixed to some convenient

part of the vehicle, as the axle of the front wheels for example, and of a shoot or collector of some flexible waterproof material, attached at one end to the breech strap or its equivalent and at the other end to an outlet tube extending from the top of the receiver in the direction of the animal's breech. The receiver or dung trap contains an open-topped drawer or removable lining, which can be withdrawn and replaced by its handle at the back of the receiver. The shoot or collector has an expanded trough-like shape near the breech just large enough to catch the dung, but narrows down to the diameter of the inlet tube. The inlet tube is pivoted to the top of the receiver in such a manner that the shoot will always adjust itself to extend in a straight line from the breech strap, notwithstanding the variations in the heights of different horses.

Whether the animal is standing or running, its dung (and its urine in the case of a mare) is caught by the shoot or collector and travels by gravity along the same into the removable drawer, which can be removed, emptied, and cleaned periodically. With regard to the urine of a male animal, if desired, a funnel-shaped receptacle may be arranged in the proper position to catch the urine and convey it by means of a rubber tube into the dung trap or separate receptacle. There is also a valvular arrangement at the inlet tube of the receiver to allow the dung and urine to pass freely into the receiver, but to prevent any smell coming out. The shoot and receiver are permanently fastened together and to the carriage. When a horse is put to the carriage, all that is required is to attach the shoot by means of clamps or straps and buckles, which can be done in a couple of minutes. It will be seen that, with the exception of the receiver which is placed quite out of the way, everything is soft and flexible, and as no part of it touches the horse there is nothing in the least to frighten the most timid animal.

The only possible objection that I can see is its unusual or novel appearance. A glance at the photograph will show that it is not very obtrusive or ugly, and I think, considering its great utility, people will soon get used to its appearance as they have to the splashboard or any other necessary part of a carriage. I am convinced that if this apparatus were universally adopted the streets of towns would become almost as clean and as wholesome as a garden walk, disease and mortality would diminish, and the comforts of town life would considerably increase. I do not enter into the economical question for that will at once suggest itself to municipal authorities, the enormous expense of scavenging the streets being necessitated mainly by horse dung.

I am, Sirs, yours faithfully,
J. A. CALANTARIENTS, M.D. Edin.

Scarborough, Sept. 29th, 1903.

*** The apparatus as shown in the photograph is not at all obtrusively noticeable.—ED. L.

WHAT IS SCIATICA?

To the Editors of THE LANCET.

SIRS,—Dr. W. Bruce, in his letter in THE LANCET of Sept. 12th, p. 785, shows that he has not quite grasped either the substance or the spirit of my letter of August 29th, p. 633. I, like many other general practitioners, scan weekly the columns of THE LANCET to keep myself acquainted early with any new light thrown on disease or injury, and a paper like Dr. Bruce's professing to revolutionise our conception of sciatica is well calculated to attract the attention of the general practitioner. Sciatica is a common and frequently an intractable complaint, and if Dr. Bruce has given us a clue to its more effectual treatment he is worthy of our gratitude.

Having read Dr. Bruce's paper I was prompted to give details of a case on which his theory had direct bearing. A man with double arthritis deformans affecting the hip-joints is a martyr to sciatica; he sustains an intracapsular fracture of the left femoral neck, union is not good, but the sciatica on that side is cured. Three years later he gets an intracapsular fracture of the right femoral neck and comes into my hands. He is treated with extension; union is fair and the sciatica is cured this side also. I ask if the sciatica was cured by the long rest or the long stretching of the sciatic nerve? I cannot believe that an intercapsular fracture with a few weeks' rest will cure old-standing arthritis deformans of a joint and if it will not, surely the cure must be attributed to the stretching. I believe it is an accepted pathological doctrine that the group of toxins which produce an arthritis deformans may also produce a neuritis and the facts of the case seem to me to warrant the opinion that while the sciatica was no doubt in the first place excited by the joint disease there was an actual neuritis of the sciatic nerves which was benefited, as other cases of sciatica have been benefited, by stretching.

Dr. Bruce in his letter confesses that he may have put his case too strongly and thereby relieves me of the onus of suggesting that he has fallen into the common temptation of the man who has a new truth to tell, the temptation of overstating his case for the sake of emphasis. I may be wrong, but it seems to me also that he has not kept quite clear of partisanship in the strife between consulting physician and surgeon which prompts the one to declare that surgeons are prepared to use the knife for every complaint under the sun and the other to refer to the post-mortem room as the "physician's operating theatre." Therefore, to return to Dr. Bruce's use of the term "barbarous" as applied to an operation, I can only repeat that unless he has an alternative to offer he has no right himself to apply the term but should leave it to futurity. Dr. Bruce assumes, without any ground for the assumption beyond my not mentioning the fact specifically, that the first fracture in my case was not treated by extension. I did not think it necessary to mention its treatment, but as a matter of fact it was not treated by a prescription but by extension, as is customary, the bad result being ascribed to the man's constant restlessness from the sciatica in his other leg.

In concluding let me once more assure Dr. Bruce that his paper has provided me with most interesting and suggestive reading which I have no doubt will be of great use to me practically. I am not presuming to pit my knowledge and experience against his but have written purely from the point of view of the general practitioner, to which class of the profession his paper mostly appeals. Few of us care to undertake such operations as stretching of the sciatic nerves or, *a fortiori*, removal of the Gasserian ganglion, but the responsibility of sending the patient to the surgeon or the physician is ours. I think Dr. Bruce has on the whole scored a success for the physicians.

I am, Sirs, yours faithfully,
Hampstead, Sept. 21st, 1903. J. S. MACKINTOSH.

THE PROBABLE ACTION OF CANCER PARASITES ON THE HUMAN BODY.

To the Editors of THE LANCET.

SIRS,—Virchow's artificial histological classification of tumours into homologous and heterologous growths has obscured the intellects of medical men with regard to cancerous and other malignant disease for a considerable time. But of late years there has been a tearing away from dogma and there is at present a strongly growing belief that malignant growths are caused by protozoal parasites. I believe that most of the evidence we at present possess, without conclusively proving this to be the case, strongly points that way. Allowing for the moment that cancer is a parasitic disease how can its peculiarities be explained? The most valuable theories are those which connect all the known facts of a subject. When all known facts will not fit in with a theory then it must be wrong. I think in the following all the known facts of cancerous diseases fit. The cancer parasites attack only living epithelial cells. Under favourable conditions they enter some of these cells, live with them symbiotically, dominate them, and stimulate them to increase and to multiply abnormally and thus is formed the primary tumour. Under the malign influence of the parasites the epithelial cells turn arrant traitors to their commonwealth and, like all renegades, become the bitterest foes of that to which they owe allegiance. After a time the dual semi-alien settlement sends forth colonies through the lymph streams which form other settlements wherever they can succeed in getting a foothold—secondary growths. The renegade epithelial cells and their guests prey on the tissues of the body and poison the sources of life by their combined excreta and lead to the destruction of the commonwealth—the human organism. The stroma of cancer is the results of the efforts made by the connective-tissue cells to combat the invaders after the latter have gained a lodgment. The species of parasites which cause sarcoma attack only the connective-tissue cells which

become the renegades. Their colonies are despatched through the blood stream.

Is it possible to cultivate the parasites outside the human body? The answer to this question is: Probably the only possibility of cultivating a cancer or sarcoma outside the living body would be by placing an aseptic living section of a tumour in a constantly changing nutritive medium containing oxyhæmoglobin maintained at the body temperature. The difficulty of this undertaking, if not insuperable, would be extremely great. Where the parasites exist outside the human body is hard to surmise, but judging by analogy some insects, possibly flies or water animalcula, have something to do with their transmission.

It may seem premature to theorise about the parasites of malignant disease before they are definitely proved to exist but it is probable that their existence will never be mathematically proved according to Koch's data, yet most of us are morally certain that they are there. Action, it is said, must be based on theory. Sir Thomas Watson, long before the bacteriological age, held that tetanus was caused by the gradual manufacture of a strychnine like poison within the body. Sir Patrick Manson, long before it was proved by Ross, was convinced that the malarial parasites were carried by mosquitoes. A year before the malarial flagellated bodies were proved to be spermatozoa I suggested that they were such from their peculiar movements.

I am, Sirs, yours faithfully,

J. H. WHELAN, M.D. R.U.I.,
Oct. 1st, 1903. Fleet Surgeon, R.N.

THE CARDIAC REFLEX OF ABRAMS.

To the Editors of THE LANCET.

SIRS,—Anent a recent annotation in THE LANCET[1] on the Cardiac Reflex of Abrams, one is constrained to conclude that the reflex in question can be elicited without the aid of the Roentgen rays. The latter observation, however, is only partially true, for the very evident reason that the cutaneous irritation necessary to produce the heart reflex will contemporaneously induce the lung reflex of dilatation which of itself will reduce the area of superficial cardiac dulness. The lung reflex being of shorter duration than the cardiac reflex, persistent reduction in the area of superficial cardiac dulness after a space of two minutes (a time exceeding that necessary for the lung borders to recede) would indicate that the diminished cardiac dulness was due to reduction in the heart volume and not to lung dilatation. In soliciting the aid of the cardiac reflex in diagnosis, prognosis, and treatment I almost invariably place sole reliance on the Roentgen rays with the fluorescent screen approximating the anterior chest wall. Unless one is specially skilled in mapping out the deep or relative cardiac dulness the Roentgen rays and not percussion should be our guide. You mention in your annotation that Merklen and Heitz of Paris have extended my observations and I beg to direct your attention to further facts concerning this reflex which I have elaborated since the publication of my original contributions on the subject. I have studied the reflex as an index to the condition of the myocardium and find in brief that when the cardiac muscle is beyond restitution in myocarditis and valvular diseases the cardiac reflex cannot be elicited. Heretofore this reflex was only observed in the transverse cardiac diameter, but it may also be noted in the sagittal diameter. The recognition of the heart reflex will often aid us in excluding the murmurs of a relative insufficiency. Here vigorous rubbing of the præcordium will temporarily dispel the latter murmurs. The principle involved in the latter manœuvre is essentially this: in relative insufficiency of the valves they have undergone no anatomic change but are no longer able to close the enlarged orifices of the heart, therefore vigorous friction of the præcordium by inducing the heart reflex will contract the myocardium and the orifices and will allow closure of the latter by the valves, at least temporarily. One may elicit the heart reflex by irritation of more remote regions. Thus one may easily observe by aid of the rays that when ammonia is inhaled there is decided recession of the cardiac ventricles (heart reflex), especially the left, and that this reflex may be more pronounced than when discharged through the skin of the præcordium. Ether and chloroform produce a similar though less pronounced effect. With the nose closed a similar though less pronounced effect of the vapours may be obtained, presumably by their action on the pharyngeal and laryngeal mucosa. In a few instances the vapours produced a veritable heart inhibition. I could observe no diminution in the intensity of the heart tones during the inhalation of the vapours, although sphygmograms showed a decided difference in the output of blood into the general circulation before and after the inhalation of ammonia. These observations suggest the wise expedient of cocaini-ing the nasal mucosa before using an anæsthetic and further suggest the cogent necessity of anæsthetising the pharyngeal and laryngeal mucosa.

I am, Sirs, yours faithfully,

San Francisco, Sept. 18th, 1903. ALBERT ABRAMS.

[1] THE LANCET, August 29th, 1903, p. 619.

TAKA-DIASTASE IN GOUTY DYSPEPSIA.

To the Editors of THE LANCET.

SIRS,—Every practitioner has under his care at various times very troublesome cases of dyspepsia associated with the gouty diathesis and the difficulty of keeping patients to a suitable dietary is well known. The stomach seems to digest well up to a certain point and appears to assimilate proteid matter far more readily than fats and carbohydrates; in fact, it is the faulty digestion of the latter, together with the sustained irritation caused by the decomposition of their by-products, that prevents the organ returning to a healthy tone. On the other hand, it is unquestionable that a diet almost exclusively composed of milk and farinaceous products is the one most suitable to produce permanent amelioration of the effects of uric acid saturation, and it is essential to put the stomach in a condition fit to receive and to use such foods. I have used salicylate of bismuth before meals for this purpose with good results as to relief of symptoms so long as its use was continued, but its curative action is practically *nil* and the mucous membrane reverts to the same irritable and atonic state when the drug is discontinued. Some samples of taka-diastase (Parke, Davis and Co.) were sent to me with notes on its value as a diastatic ferment with powerful action on starch. I tried it in two and a half grain tablets with a patient who had long suffered from this form of dyspepsia, with very gratifying results, and have since ordered it to be taken regularly after meals in this class of case until a satisfactory condition has been re-established. I should be glad to hear if my opinion on the value of this preparation is borne out by other practitioners and can heartily recommend a trial from my own experience of it.

I am, Sirs, yours faithfully,

L. WHEELER, M.B., B.Ch., B.A.O. R.U.I.
London, Sept. 30th, 1903.

FEVER AND CONVULSIONS DUE TO ASCARIDES.

To the Editors of THE LANCET.

SIRS,—Round worms in children of the poorer class are very common in the district round St. Day, near Redruth, and I have seen several cases of fever and convulsions, a few cases of incontinence of urine, and one case of chorea which could be traced to this condition. The children frequently vomit the worms and they are passed per rectum often in clusters. I used to put the cause down to the celebrated Cornish pasty which is the main food of the lower class. The outer covering of the pasty is often very lightly baked, while the contents are of various materials from underdone meat to cabbages and rotten potatoes. I imagine most medical men in practice in Cornwall have seen many peculiar symptoms which they have credited to the ascaris lumbricoides and it would be interesting and instructive to hear what, in their opinion, is the cause of this endemic disorder in the extreme south-west of England.

I am, Sirs, yours faithfully,

Streatham, S.W., Oct. 4th, 1903. E. H. WORTH.

To the Editors of THE LANCET.

SIRS,—Surely "worm fever" is not a complaint of extreme rarity, even though, as you note in THE LANCET of Sept. 26th (p. 893), "it is not recognised by British writers." Two cases, both of much interest at the time, have occurred in my short experience. Of these, one was that of a child six or seven years of age whom I admitted to the wards of a children's hospital as a case, probably, of typhoid fever, a

diagnosis which was contradicted on the next morning by the finding of a large round worm in the cot, together with a remission of the symptoms. The other was that of a boy, aged 16 years, whom I admitted into the Great Northern Hospital in a comatose condition from which he could be with difficulty roused. The reflexes were markedly increased, Babinski's sign was present, and the temperature was raised. So ill did he seem that his friends were summoned on the following day. A few hours after they had settled themselves mournfully at the bedside both of them, uttering shrieks, fled down the ward. A nurse who investigated the cause of this alarm found a round worm struggling out of one of the nostrils of the patient who from that hour had no further symptoms. Were the latter produced by toxins, as suggested by Dr. Wettendorff, such rapid recovery would hardly have been expected.

I am, Sirs, yours faithfully,

London, Oct. 7th, 1903. A. E. CARVER, M.B. Cantab.

A CASE OF LEPROSY.

To the Editors of THE LANCET.

SIRS,—With reference to the case of leprosy recorded in THE LANCET of Feb. 19th, 1898, p. 501, it may interest some of your readers to know that the patient died about nine months ago, apparently as a result of pulmonary complication of a few days' duration. This I learnt on making a recent inquiry, as the case came under my notice as well as that of others.

I am, Sirs, yours faithfully,

GEORGE PERNET.

Upper Gloucester-place, N.W., Oct. 2nd, 1903.

MEDICAL DOCTRINES OF HEREDITY.

To the Editors of THE LANCET.

SIRS,—Dr. J. Wiglesworth says that parental intemperance occurred in one sixth of his cases of insanity. I do not doubt him, but I think he will find it is quite as frequently an antecedent of sanity—among the inmates of a workhouse for instance. He adds that neither side in this discussion is capable of supplying definite proof of its contention. He is always so courteous, so obviously inspired by a right scientific desire to get at the truth, whatever it may be, that I am sure he is unconscious that he is a little unfair. The onus of proof rests with the side that makes a positive assertion. All that can reasonably be expected of their opponents is that they shall shatter any evidence brought forward. They cannot prove a negative. If I, for instance, declared that a dragon resided in the moon Dr. Wiglesworth would find it very difficult to disprove. Not an iota of evidence has been tendered for us to deal with though medical works are full of statements that parental disease and alcoholism affect offspring, though at the Swansea meeting speaker after speaker declared that he had seen any number of cases of it, and though I appealed to some of these gentlemen by name. Dr. Wiglesworth mentions Professor Cossar Ewart's pigeons. May I call his attention again to the highly significant fact that the immature germ cells were plainly not affected permanently. Only those ripe germ cells which left the diseased male body and took up their abode in the healthy female body are supposed by Professor Ewart to have been incapable of recovery. Our experience of syphilis, for example, is similar. People recovered from that disease produce apparently healthy children. Nay, even while they are suffering they produce healthy offspring, provided the developing embryo is not affected with the actual virus. As an accurate scientific observer Professor Ewart is above suspicion, but his observations on this point were too few in number to constitute proof, especially in the face of a vast amount of contradictory evidence. Dr. Wiglesworth will remember Brown-Séquard's experiments on guinea-pigs. Brown-Séquard announced that by injuring parents he had produced defects in offspring. He thought that he was arguing for the transmission of acquirements. As a fact he was maintaining the much more rational doctrine upheld by Dr. Wiglesworth. Not a single observer of the many who tried was able to repeat his results.

Dr. C. E. Scudamore thinks me too dogmatic. The quality of my dogmatism is by now apparent. In common with the majority of the scientific world I have refused to accept other people's dogmas when unsupported by any evidence and contradicted by a great deal of it. He says that I have "manipulated" his figures. If the readers of THE LANCET will turn to my last letter they will learn exactly what Dr. Scudamore means by manipulation. I must reserve the question as to whether "infectious diseases evolve and die out like higher species of animals, only with far greater rapidity," for future discussion.

The hair slopes in different parts of the human body in a number of different directions which are definite for the whole species. Dr. W. Kidd thinks that in each instance the slope is such as would naturally be produced by external influences and he wants us to believe it has become inborn in the race through the transmission of parental acquirements. In other words he wants us to believe that influences which have brushed the hair in one direction on the great toe, in another direction on the back, in a third direction on the head, in a fourth direction on the eyebrows, and so on, have each and all so separately affected the germ cells, situated far distant, that the traits which the parents acquired have become inborn in the descendants. And he wants us to believe this in spite of the facts (1) that no machinery for this amazing process has been discovered; (2) that the plant and animal kingdoms have been ransacked and no instance of the transmission of acquirements has yet been proved; and (3) that the tremendous and long-continued effects of use and disuse and of disease and hardship, as well as the amputation of dogs' tails and Jews' prepuces and the destruction of women's hymens have been without effect.

Dr. C. Mercier retires offended from this discussion. He declares that he has been misrepresented and he declines to deal with adversaries whose methods are so unscrupulous. Well, let us examine the two instances alleged by him. 1. In THE LANCET of August 22nd, p. 559, Dr. Mercier wrote: "By a parity of reasoning, if a long neck in a giraffe led to increased length of neck in the offspring every giraffe would now carry his head as high as the cross of St. Paul's. So easy is it to procure a *reductio ad absurdum* by ignoring essential conditions—in this case counteracting circumstances." In THE LANCET of August 29th, p. 630, I wrote: "As to the necks of giraffes, certainly, if giraffes stretch their necks and the stretching is transmitted, I see no reason why their necks should not grow as high as the cross of St. Paul's. In fact, considering his beliefs—perhaps I should say his faith—I am lost in wonder that Dr. Mercier is not lost in wonder that they are not already higher." In THE LANCET of Sept. 5th, p. 731, he replied: "He asks me what the counteracting circumstances are which prevent a giraffe having a head as high as the cross of St. Paul's. There are many. One is that the weight of the neck would crush the animal." In THE LANCET of Sept. 12th, p. 785, Dr. C. R. Niven wrote: "With regard to the giraffe's neck and Dr. Mercier's 'parity of reasoning,'" if it be true, as Dr. Mercier holds it to be true, that acquired traits are transmissible and that the long neck of the giraffe is due to former giraffes stretching their necks, I agree with Dr. Reid in "seeing no reason," if Dr. Mercier demands it, "why their necks should not grow as high as the cross of St. Paul's." It is clear that Dr. Niven and I had both been led by Dr. Mercier's language to credit him with the belief that the giraffe's neck had grown long through the transmitted effects of stretching—a surprising belief which is an ordinary article of the creed of the school of thought which supposes that acquired characters are transmitted and to which Dr. Mercier belongs. Hitherto Dr. Mercier had done nothing to correct us; but the scent was gowing hot and in THE LANCET of Sept. 19th, p. 844, he wrote: "In your next issue I expect to see that Dr. Niven credits me with the belief that ..... giraffes lengthen their necks by stretching." It must be admitted that Dr. Mercier's expectation was pre-eminently reasonable. It was immediately gratified for in the same issue both Dr. Niven and I made the expected assumption. *Hinæ illæ lacrimæ.* 2. I raised a discussion by declaring that parental disease did not render offspring degenerate. Dr. Mercier vigorously attacked. Naturally I assumed that he did not agree and by way of beginning a passage wrote: "He asserts that alcohol, diseases, &c., affecting parents cause offspring to be degenerate. ..... We have given reasons for believing that the evidence is unsatisfactory. In all humility what is the nature of the information he asks?" Dr. Mercier retorted: "If he will refer me to any such assertion of mine I shall be obliged to him. I deny I have made it." In astonishment I asked,

"What then is his position in this discussion?" But Dr. Mercier is too deeply shocked to reply. He thinks that I ought to have apologised. Accordingly, he withdraws "from a discussion conducted by such methods" and indignantly asks, "What is to be thought of a cause that needs such expedients for its support?" The humour of the whole thing is that Dr. Mercier had persistently misinterpreted clear meanings and had declared that he had scalped Dr Niven and that Dr. H. Laing Gordon and Dr. A. Mearns Fraser had agreed with me only because we were all Scotsmen. It is unfortunate, moreover, that his exceedingly delicate sense of propriety awoke only at the precise moment when his scientific objections had been crushed, when he had been convicted of not knowing the elementary difference between an acquired and an inborn character without which all clear thinking on this subject is impossible, and when he had been invited to supply evidence of some remarkable discoveries in evolution which he said he had made.

I daresay it will be thought that I have pursued Dr. Mercier with unnecessary heat and cruelty. But, as he says, he has had previous experience of me, which implies that I have had some previous experience of him. I hope to appeal to the readers of THE LANCET on a future occasion and I am anxious to put an end, once and for all, to the petty evasions, personalities, impertinences, and irrelevancies which constitute his controversial stock-in-trade. I shall still be glad to deal with any scientific points he may raise, but I hope that any discussion that may occur in the future will be conducted rather in the spirit of Dr. Wiglesworth whom from the first I have recognised as a formidable opponent—formidable because, seeking truth only, instead of setting before me tasks which needed only a little paltry dialectic skill to overcome he was liable to confound me at any moment with facts beyond my knowledge and arguments beyond my power to refute.

I am, Sirs, yours faithfully,

Southsea, Oct. 4th, 1903. G. ARCHDALL REID.

*** This correspondence must now be closed.—ED. L.

THE PATHOLOGY OF MISGOVERNMENT.

To the Editors of THE LANCET.

SIRS,—The sporadic atrocities of autocratic governments are occasionally explained away on the grounds of the temporarily diseased state of the absolute monarch reigning at the time. "Nature," quote the apologists, "being oppress'd, commands the mind to suffer with the body." King Asa was "diseased in his feet until his disease was exceeding great," and he it was who induced Ben-hadad to send "the captains of his armies against the cities of Israel; and they smote Ijon, and Dan, and Abel-maim, and all the store cities of Naphtali." But apparently Asa's disease was not contemporary with his moral delinquency and perhaps was an effect rather than a cause of it. On the other hand, a French writer[1] has recently advanced the hypothesis that the enormity known as the revocation of the Edict of Nantes, by Louis XIV., was the more or less direct result of disease and was brought about, not so much by evil counsels, as by an evil condition of the king's antrum. The king's physician, D'Aquin, relates that His Majesty suffered from very bad teeth which caused him constant pain. In 1685—the year of the revocation—dental caries was complicated by caries of the left maxillary sinus. All the teeth in the upper jaw on the left side were extracted and an enormous hole in the antrum resulted. This opening, although good for drainage, did not improve His Majesty's table manners, as every time he partook of a drink the fluid gushed from his nose "comme d'une véritable fontaine." Added to this, a marked fœtor developed, owing to the septic condition of the parts, which further increased the discomfort to himself and his environment. "Madame," said Louis one day to Madame de Maintenon, "je suis fatigué de supporter votre mauvaise humeur." "Sire," she retorted, "je supporte bien, moi, votre mauvaise odeur." Later in the year the actual cautery was extensively applied to the diseased area and the king made a tardy recovery. If we can divest ourselves of the belief that the revocation was the consummation of a definite policy we may think. What might the Protestants of France not have owed to a good dentist?

I am, Sirs, yours faithfully,

Manchester, Oct. 5th, 1903. E. S. YONGE, M.D. Edin.

[1] "Sinus et Sinusites Maxillaires." Par J. de Croës. Paris. 1902.

FOOD PRESERVATIVES.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a paragraph in THE LANCET of Sept. 12th, p. 798, in which one of your New York correspondents draws attention to Dr. Wiley's experiments upon food preservatives and in which he says that two facts have been proved. This is not correct and I feel sure that Dr. Wiley would be the first to ask you to contradict this statement, as in his lecture before the National Association of Food Commissioners, which I have carefully read *in extenso*, he states repeatedly that although his experiments are practically completed he was unable then to make any announcement as to the conclusions which might be drawn from them. He further states that the large amount of data which had been accumulated would require several weeks of careful study before a report could be furnished by the department and therefore it seems very desirable that one should wait for the official report from the United States Bureau before Dr. Wiley is quoted as being either in favour of or against the use of preservatives. The paragraph in inverted commas is correctly reported except that he gives it, not as the summing up of the results of his work, but as the opinion which might be formed at the present time from the work of others, and your readers will have noticed that this opinion does not go further than expressing the desire that a declaration should in all cases accompany the use of preservatives.

The fact that he was about to visit England, France, and Germany to study the question shows that he still regards the problem as an open one, with the exception of the above proviso. I think it is exceedingly probable that he would have taken exception to the total prohibition motion which was brought forward and accepted at the recent meeting at the Congress of Hygiene and Demography at Brussels.

I am, Sirs, yours faithfully,

SAMUEL RIDEAL.

Chemical Laboratory, Victoria-street, Westminster, London, S.W., Oct. 5th, 1903.

OBSERVATIONS ON MASTICATION.

To the Editors of THE LANCET.

SIRS,—In reference to the remarks of Dr. Harry Campbell in THE LANCET, his theory, like many other theories, is good until compared with the results of practice. I personally have used a perfectly antiseptic and deodorant mouth wash at least once daily for over 20 years with the most beneficial results and have never noticed adverse reasons for discontinuing it. My digestive powers and my general health are decidedly better than they ever were at any time previous to the last five years. I think the prejudicial effects of diseased teeth and an unhealthy mouth upon the general health more than counterbalance the evil effects, real or imaginary, of the tooth brush and antiseptic mouth washes. The artificial life which the struggle for existence compels most of us to live must be taken into consideration and compared with the mode of living adopted by most savage races who, as a rule, have splendid teeth, but who go to bed and rise with the sun, live mostly in the open air, and use their teeth, as they should be used, for breaking down and masticating their food and to whom knives and forks are unknown or at least not used.

I have had the opportunity of examining the teeth of many natives in their more or less uncivilised state, from the Red Indians of North America, the negroes of Africa, to the more civilised Chinese, Japanese, and Indians of the East, and I have usually found them possessed of sound teeth, but so soon as they come under the influence of civilised life in Washington, Montreal, London, Paris, and other cities their teeth begin to degenerate, though their general health may remain good. As an instance amongst many that I could give, some years ago I had an opportunity of examining the teeth of three highly intelligent, well-educated West Coast negroes. When they arrived in this country for the purpose of study they had perfect sets of teeth in well-developed and well-shaped maxillæ; before these young men left this country on the completion of their studies I filled several teeth for them and prescribed an antiseptic mouth wash and tooth powders with

beneficial results. Yet they had always used artificial means for cleaning their teeth. Many even of the most uncivilised natives employ artificial means for cleaning their teeth and yet are possessed of perfect dentures. I consider an antiseptic preparation for the teeth distinctly beneficial and in many cases a necessity.

I am, Sirs, yours faithfully,

Sept. 26th, 1903. DENS.

THE MEDICAL DIRECTORY.

To the Editors of THE LANCET.

SIRS,—May we ask you to help us again in our desire to have the Medical Directory as up to date as possible by reminding your readers that all information for the 1904 issue should be sent to us without any further delay. It will not be safe for any member of the profession to rely on an alteration being possible after Oct. 24th.

We are, Sirs, yours faithfully,

Oct. 7th, 1903. J. & A. CHURCHILL.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Mortality from Wild Animals and Snakes in India.—The Epidemic of Plague.—The Dangers of Indian Fairs.—The St. John Ambulance Association.

A RETURN recently issued by the Government gives the mortality from wild animals and snakes. Although not so numerous as in 1901 the deaths last year caused by wild animals totalled 2836 and those by snakes 23,166. Tigers caused 1046 deaths, more than half of which occurred in Bengal. In one district the increase of deaths from 31 to 63 is reported to have been due to the depredations of a man-eating tiger and in another district (Palama) an even larger number fell victims to a man-eater. Wolves caused 377 deaths, chiefly in the United Provinces. Snake-bites were, as usual, most numerous in Bengal—11,150 deaths in this province being recorded, 3258 of which occurred in the Patna division. In addition to this destruction of human life the number of cattle killed by wild animals was enormous—80,796 being reported for 1902 and 9019 more from snake-bites. In Bengal the destruction was greatest. The animals killed by tigers are returned at 30,555, by leopards at 38,211, by wolves 4719, and by hyenas 2387. To combat the annual destruction of life rewards are offered and 14,983 animals were killed for these rewards which amounted to over a lakh of rupees. The total number of snakes killed was 72,595. As the number of new licences issued free of cost under the Indian Arms Act for the destruction of wild animals was 9066, and as the total number in force amounted to 37,933, it can hardly be said that the holders were particularly active. Nearly three licences were in force for one wild animal killed.

There has been a pause in the hitherto rising mortality from plague, but 7748 deaths occurred throughout India last week from this cause. Of this total 4753 deaths were returned from the Bombay Presidency, 1330 from Central India, 473 from Hyderabad, 441 from Mysore, 350 from Berar, 117 from Madras Presidency, 107 from the Central Provinces, 88 from Bombay city, 38 from the Punjab, 18 from Calcutta, and 36 from Bengal. Plague has broken out again at Karachi and at Poona, it continues mildly at Ootacamund, it shows signs of increasing in Bombay city and Calcutta, and it has broken out in Broach. The published returns give no idea of the ravages of the disease at certain places During the past month, for example, plague has raged at the military station of Mhow with great severity. With a population of only 37,000 the deaths have risen to nearly 100 a day. At this rate the whole city would be destroyed in a little over a year. A popular rumour states that the British people had lost so many soldiers in the Boer war that they could not send out enough to control the large native population so they were trying to equalise numbers by the introduction of plague. Inoculation is, unfortunately, in abeyance and disinfection seems to be the only measure adopted. And what a broken reed. The course of the outbreak in Mhow is only one more proof of its uselessness. Epidemiologists have now the opportunity of watching the unimpeded course of plague in all the infected parts of India.

Indian fairs and pilgrimages which at different seasons attract so many thousands are a source of great danger in the spread of cholera, dysentery, and small-pox, but apparently not of plague. The great Hurdwar fair, for example, had 400,000 people assembled at one time and a daily average probably of 200,000, yet during the three weeks of its existence only 15 deaths from plague occurred and there was no evidence that the disease was subsequently disseminated. Cholera, on the other hand, broke out towards the close of the fair and the pilgrims in dispersing seem to have spread it over the Punjab and the United Provinces, thousands of deaths occurring within the few weeks ensuing. Were it not for the excellent sanitary arrangements made by the Government these fairs would probably be attended by a very high mortality. The greater facilities of travel by rail make these fairs larger and larger with each succeeding year.

The work of the St. John Ambulance Association in imparting instruction in first aid to the injured is being actively pushed, especially in the west of India. The railways fortunately are taking the matter up seriously and large numbers of classes have been held. The latest move is a competition open to Indian railway companies for the challenge shield and prizes offered by the association in the year 1904. Teams of five men, *bonâ-fide* servants of the railway company and holding first-aid certificates, will compete. I am sorry to hear that although a centre was formed in Calcutta there has been very little done for nearly two years.

Sept. 18th.

THE ELEVENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE FOURTH SECTION.

Debate on Ankylostomiasis.

UNDOUBTEDLY one feature of the Congress was the question of ankylostomiasis. It is but comparatively recently that general attention has been called to this disease, though it has spread to an alarming extent in Westphalia and other parts of Germany and in the Liège coalfields of Belgium. In Hungary, also, as many as 90 per cent. of the miners in certain districts suffered from this worm. It is present in some coal-mines of France and has made its appearance among the tin-mines of Cornwall. Consequently I need not apologise if I describe at length the debate held on this subject. It was the first question in the Section on Industrial Hygiene and in respect to factory legislation Belgium is undoubtedly much behind the times. Consequently some of the warmest discussions arose in this the Fourth Section. Conflicting interests came into play and it was no easy matter for the man of science to steer clear of party politics and financial influences. Some medical men were placed in the very awkward position of having to keep silent or of having to speak against the financial companies by whom they are employed and this in the presence of the directors of such companies. Six reporters had been appointed to deal with the question of ankylostomiasis and four lengthy printed reports were in the hands of the members of the congress before the section met. Dr. KUBORN, President of the Belgium Royal Society of Public Medicine, who occupied the chair, proposed that these reports should be taken as read and the discussion was at once opened by M. HARZÉ who is the "honorary director-general of the mines of Belgium." He explained that in 1899 the administration of mines desired to make regulations so as to check the spread of this disease but 12 out of 23 mining constituencies rejected such measures, qualifying them as "vexatious and useless." The spectre of a general strike was even evoked. It seemed as if a word of command had gone round, for the opposition was simultaneous and similar in its arguments and phraseology. M. Harzé thought that much ignorance prevailed and that at universities there should be a chair on professional or trade diseases. He did not, however, believe that individuals could, by taking precautions, do much to check the malady. Several mining engineers had caught the disease and they were gentlemen of education who were well aware of the danger and took every precaution. Baths were excellent in their way but it was more important to examine under the microscope the

dejecta of every miner. People still, and in spite of all that had been said, continued to spit in railway carriages or tramcars, so also the miner did not wait till he got home to relieve himself and when in the mine he would not give himself the trouble to go to the sanitary pail.

Dr. BREMONT agreed with M. Harzé and thought that though it was most necessary to teach the workmen, still the medical men must themselves first be taught and therefore he cordially approved of the creation of chairs on trade diseases.

M. HABETS, who is the manager or director of the Bonne-Espérance and the Bonne-Fortune coal mines, followed so as to describe what his company had done to combat the epidemic. Undoubtedly it was an advantage to hear what the mine owners themselves had to say; but, on the other hand, their presence might also have a deterrent effect on the freedom of discussion. In any case M. Habets explained that his engineers, acting under medical guidance, made the first analyses attempted in Belgium. They had a dispensary and employed a trained nurse to watch and to help in the analyses. As a result they found that about 60 per cent. of their miners were infested by the worm. Thereupon they drew up a set of rules which at first the miners showed some disposition to observe. Among other things, those who ate in the mine were not to touch their food with their fingers but to hold their bread with a piece of paper which was to be thrown away immediately. He could not find that any particular class of men were especially susceptible and some of the pit-brow workers, notably young women, had contracted the disease. Some cases had also been detected among phosphate workers and farm labourers. Last year the miners seemed to be tired of taking precautions and neglected them. So far M. Habets had trod on safe ground and the information which he gave to the section was welcome but when he continued by giving what he imagined were the reasons for the present negligence of the workmen he soon raised a storm. He said that when the workmen saw on the one hand that the infection did not produce very severe sickness and on the other hand that they would receive an indemnity which had been voted by the Liège County Council they had become careless. He thought workmen should be made to feel the evil consequences of their conduct. Dr. TERWAGNE (Antwerp) here exclaimed, "This would suppress public hygiene"; but M. Habets denied this, pointing out that here were mine-owners who had foreseen the danger and had done their best to cope with it.

Dr. BARBIER rose and insisted that the provincial government or county council of the province of Liège had been the first to act in the matter; he did not think that the amount of help given to the victims was enough to make them careless; they much preferred health, work, and the larger sum they could earn. As Dr. Barbier concluded it was evident that others were eager for the fray and wanted to attack or to defend M. Habets's aspersions on the miners but Dr. JORISSENNE intervened with a purely medical or therapeutic question. He claimed that the difficulty could be met if they had a treatment to efface the illness that was easy, cheap, and could be given even without the patients knowing that they were being treated. He then described a very bad case which had resisted all the usual methods of treatment. The man looked double his age, his brain was affected, he had albuminuria, and was on the point of death. Dr. Jorissenne thought of treating the patient with sulphur but sulphur alone would not kill the worms. It, however, produced some improvement. He found that the larvæ of flies could not resist terebene and therefore gave doses of terpene, sulphur, and as a stimulant to facilitate digestion some condurango. This treatment had restored his patient in spite of his desperate plight. In the case of many other sufferers from ankylostomiasis it had proved to be an infallible cure. As it was a perfectly inoffensive remedy and could do no injury to healthy persons he proposed that it should be given indiscriminately to every miner, whether in good or bad health, and thus the disease could be stamped out. After eight days of such treatment no more ova of the worm would be found in the dejecta.

M. CAVROT, who represents a constituency of miners in the Belgian Parliament and is vice-president of the Superior Council on Labour, followed with an energetic speech. As a simple workman he apologised for his audacity in addressing an audience of distinguished men of science. But if he was lacking in scientific education he had the practical education derived from actual work done in the mine and from personal suffering. The Superior Council on Labour was a State institution and in spite of the pressure brought to bear by the workmen who were admitted to that body, like other Government bodies it moved slowly. It had been said as an excuse that 12 out of 23 mining constituencies had objected to precautionary measures as "vexatious and useless" but this was the opinion of the mine-owners—the working miners were not represented. The miners, like other members of the community, required some educating, yet he would venture to affirm that in the central coalfields of Belgium not 5 per cent. of the pitmen would object to reasonable precautions. But first of all the necessity of cleanliness must be taught. Baths should be provided at every pit-brow. This had been done at Mariemont-Bascoup since 1883 and now the miners were proud of being clean. They would be ashamed to be seen in their soiled black clothes and nothing would induce them to leave the mine without first taking a bath and putting on respectable and clean clothes. It was absurd to imagine that the miners would expose themselves willingly to the risks of a serious disease. They set a higher value on health than the paltry 1*s.* 3*d.* per day given to some among them when it was proved that they had been seriously ill for more than a month. He concluded by hoping that the disinterested opinions of those present would awaken the Belgian Government and that at last something effective would be done to prevent the spread of this very terrible and wasting disease.

Dr. PERRONCITO of the University of Milan congratulated M. Cavrot on his declarations. Dr. Perroncito had studied ankylostomiasis in 1880 when it afflicted the workmen engaged in making the St. Gothard tunnel. Toxins were sometimes found in the urine but the worm was the main difficulty and evil. He agreed that cleanliness was the first necessity and the experience acquired in Hungary proved that by sanitary measures the disease could be overcome. For treatment he advocated the use of male fern.

Dr. HERMAN of Mons objected that it was impossible to disinfect a coal mine. The larvæ survived. No chemical method could be applied to a mine.

Dr. PERRONCITO replied that that was true only with regard to certain chemicals; mercury, for instance, was of no use. Carbolic acid was more effective.

M. GREGOIRE now rose to defend the action of the provincial government of Liège, he being a *député permanent* or member of the executive committee of that county council. He energetically protested against the idea that because his authority had helped the sufferers the workmen no longer took precautions. A benefit society had first denounced the evil as it found so many of its members on the sick list. Then it was that the Liège county council had appointed a medical commission to investigate, had organised a series of lectures, and had appealed to workmen's organisations to help. He found that the workmen readily accepted the advice of outsiders but looked upon the advice of their employers with suspicion. As for the subsidies, they found the disease so severe that many men had been unable to work for months and great distress prevailed; they only gave relief to the extent of one and a half francs per day after a man had been incapacitated for more than a month. It was a manifest exaggeration to say that men would seek sickness to secure such a pittance. He urged that the medical service organised by the employers was deficient in many respects. At Liège money had been voted to create a special and independent dispensary for the treatment of the disease.

Dr. DEJACE, who practised in the affected district, argued that expensive measures must not be taken too hastily. In any case, it was always useful to enforce cleanliness but they were not yet well informed as to the life-history of this worm, nor were they quite positive as to the nature of the disease which it produced. The symptoms were not always the same. At first they were very severe; now they were not so serious and nobody knew why there had been this diminution of intensity.

Here the first day's debate terminated but it was resumed with renewed ardour on the morrow and continued through the whole of the second day.

Dr. TÖTTS, of the Selmeezbanya coal-mines in Hungary, explained that in his district no less than 90 per cent. of the miners were afflicted by the disease. Very vigorous sanitary measures were enforced. Under the penalty of a fine the miners were compelled to use only the sanitary pails provided. The workmen themselves helped energetically to carry out the rules, denouncing those who were careless or indifferent. In time the disease completely disappeared.

Dr. TENHOLT, of the Bochum coalfields in Germany

Government medical adviser and chief medical officer of the State insurance funds against illness among miners, had had an extensive experience of this question. He said he thought that he was justified in affirming that ankylostomiasis could only be contracted at the bottom of a mine and that it was not propagated by water or by dust. In Westphalia every miner was examined before he was allowed to work in a coalpit. When numerous cases were reported from a coalfield the Government caused statistics to be drawn up and if it then appeared that the epidemic was serious a general examination of all the miners was ordered.

Here a French member of the Congress observed that many things were possible in Germany but not elsewhere. Germany with its system of compulsory insurance had all the necessary machinery and the financial means. The debate now became somewhat discursive and confused. It was asked whether the dejecta of every miner were to be examined before he was allowed to enter a mine. A case was mentioned of a miner who had presented the dejecta of his wife so as to avoid detection. To this it was answered that special closets must be made for the collection under efficient control of genuine specimens. Thereupon it was pointed out that such suggestions had already supplied the subject matter of many coarse caricatures and some ridicule.

M. WATTEYNE, mining engineer and delegate of the Belgian Ministry of Industry, said that there were three radical means of checking the epidemic: (1) so to improve the sanitation of mines as to render the development of ankylostomiasis impossible; (2) to prevent workmen who had contracted the disease from descending into the mines; and (3) to prevent the deposit of dejecta in the mines. For this it would be well to offer special privileges or rewards to the owners of the most sanitary mines. Great care must be taken that the sanitary installations provided for the miners were thoroughly clean and accessible. Special scavengers should be appointed for this purpose. But in all these matters sanction was required and therefore rules should be officially adopted such as already existed in Germany.

There then followed a great deal of discussion as to what should be the duties of colliery surgeons and as to the necessity of notifying all cases of ankylostomiasis. There was much division of opinion in regard to the person, the employer or the medical attendant, who should be responsible for such notification. Mr. ADOLPHE SMITH here rose observing that medical men had to earn their living and it was not fair to impose upon them duties which, if conscientiously performed, would be displeasing to those by whom they were employed and paid. Notification should be rendered obligatory by law and paid for out of the public purse, and any neglect to notify should be so punished that no one employing medical men could expect or request them to shirk this duty. In the performance of their public duties medical men should not be exposed to any pressure from those by whom they were employed, whether the employers were the mine owners or associations of workmen. It was on this principle that the compulsory notification of certain diseases was enforced in England. Many of the Belgian colliery surgeons present were well pleased by this suggestion but did not venture to press it forward in the presence of the directors of the mining companies by whom they were employed. Indeed, what seems to be especially needed in Belgium is a staff of medical men holding an absolutely independent position.

M. CAVROT, speaking on behalf of the pitmen, brought forward a proposal demanding that baths and closets should be established close to the pits; that the mud that accumulated in the pits should be removed; that plenty of fresh air and pure water should be supplied; and that general cleanliness should be rendered obligatory on the part of employers and employed.

Dr. DELBASTAILLE (Liège) urged that baths, though beneficial, did not prevent ankylostomiasis.

At last the section agreed to adopt the following motion:—

Miners can only be admitted into the mines after a complete medical examination held in view of ankylostomiasis.

The notification to the competent authorities of all cases known to the chiefs of the mines is obligatory.

It is necessary to establish suitable and comfortable water-closets at the surface and recipients at the bottom of the mines.

After carrying this motion the section adjourned at a late hour for lunch. It afterwards re-assembled and resumed the discussion with undiminished eagerness and interest. A great number of recommendations were made and the question of the dryness of the mines arose. As moisture favours the spread of the disease and dryness helps to produce explosions, which is the lesser of the two evils? In regard to baths it was shown that the disease had been known to prevail in mines where there were model douches established. Sometimes water from the mine was used for bathing purposes and the douche was then the means of spreading the disease instead of preventing it. So here as elsewhere a pure water-supply was one of the first requisites. M. CAVROT said that the mines of Belgium yielded from 40 to 60 million francs net profit per annum, yet there was a great reluctance to incur a small expense so that cleanliness might be enforced. To this it was replied that the mine owners had spent 10,000,000 francs to improve the ventilation of the mines and had thus not only reduced the frequency of explosions but checked the prevalence of anæmia among the miners. After further discussion and some recriminations the debate was at last brought to a close and this is the final motion adopted:—

In view of the resolution already adopted and to facilitate the realisation of the objects therein enunciated, the Congress considers that it is necessary to draw the attention of the public authorities, the engineers, and the mine owners to the following points:—

The supervision of the ventilation, the local stagnation of water, the cleaning of the floor or soil of the mines, the removal of the mud from the working galleries.

That at present no absolute reliance can be placed on any antiseptic.

The creation of special dispensaries for the examination for ankylostomiasis.

The Congress calls special attention to the necessity of developing the instruction on sanitary matters that should be given to the working miners by means of lectures, tracts, &c.

But, above all, in the schools established in mining centres, in the programme of primary schools, and—as is actually done to prevent the spread of alcoholism—in the industrial technical schools for adults, in the evening classes, in the special schools for miners organised by large mining companies, in all these institutions elementary lessons in personal hygiene should be given and these lessons should include a lecture on ankylostoma duodenale.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Boarding School for Feeble-minded Children.

UNDER the Elementary Education (Defective and Epileptic Children) Act, 1899, education authorities are empowered to build and to maintain boarding schools for mentally deficient children and to permit them to remain therein until the age of 16 years. A school of this kind has been provided for Lancashire and Cheshire children in which the cost of maintenance and education is found to be about £27 per head per annum, towards which the Government will contribute between £4 and £5 per head per annum. The late school board appointed a committee of its own number with several medical men to report upon the best method of dealing with this class of child. The committee reported in favour of the provision of a boarding school for the reception of some of the worst cases—those with exceptionally bad homes and those whose feeble-mindedness was of a moral character. In addition to this the committee also made the following recommendation:—

That while recognising that the powers of the board cease when the children attain the age of 16, yet in view of the fact that most of these children on reaching that age cannot become self-supporting or morally responsible, and if left without supervision must be a source of danger and degradation to themselves and to the community, the board be urged to confer with the proper authorities as to the possibility of establishing a colony to which such children could be drafted when they have to leave the boarding school. In this inquiry the committee has ascertained the existence of 75 individuals now above school age and answering to the above description, and this fact emphasises the necessity for immediately approaching the city council and the board of guardians with a view to the establishment of such a colony.

This report having been received by the late school board a short time before its dissolution was never adopted or acted upon. It was again brought up at the last meeting of the education committee and a recommendation was laid before that body that inquiries should be made as to sites and plans prepared for the erection of a boarding school to accommodate 40 children. This recommendation was unanimously approved and the preliminary operations will be at once proceeded with. A perusal of the report of the subcommittee for special schools certainly leads one to think that in thus acting the education committee has taken a most desirable step, though it needs a subtle mind to distinguish between the cases which are to be sent to one of these schools until the age of 16 years and then let loose upon the public and

those other and to all appearances very similar children who are shut up in the imbecile wards of a public asylum till the end of their days.

Sanitary Conference in Birmingham.

A provincial meeting of the Sanitary Institute has recently been held in this city. The members visited the new crematorium which will be opened shortly and also the works of the Tame and Rea district drainage board, where they were conducted over the sewage farm. A lengthy discussion on methods of treating sewage took place at a meeting held in the medical theatre of the University over which Dr. Alfred Hill presided.

Vaccination Case: Personal Service of Summons.

A case of more than local interest was decided a few days ago in the Birmingham magistrates' court. Mr. Cave, for the prosecution, explained that in the first place a notice was given by the vaccination officer to the defendant to have his child vaccinated. This notice was disregarded; a summons was issued and an order was made that the child should be vaccinated within 14 days. That order was served by being left by a police constable at the defendant's house with a woman who was presumed to be the defendant's wife. The order was not obeyed and upon a subsequent occasion the present summons was issued. When it came before the court an adjournment was asked for in order that Mr. Schultess-Young should be instructed. Mr. Cave stated that the point to be decided was whether, as a matter of law, the service of the order, having been left with the wife in the man's house, was a good service. Mr. Schultess-Young pointed out that other cases had been tried in the Birmingham courts on this very point and dismissed. Mr. Carter, the magistrate's clerk, admitted that this was so. In these previous cases officers had stated that the summons was not served personally. He thought, in the circumstances, that the evidence was not sufficient and he advised the magistrates to dismiss the cases. The anti-vaccination people saw an opening and they had made the most of it ever since. He had, however, come to the conclusion that his opinion in regard to the previous cases was wrong. He took the view now from the Act that the order should be served upon the defendant, not necessarily personally. There was no provision with regard to the service of the order. It was not prescribed that there should be personal service—it was enough for the magistrates to know that the order had come to the knowledge of the defendant. In this case he believed that they were satisfied that it had come to the defendant's knowledge. Mr. Schultess-Young argued that Mr. Carter's first opinion was more correct than his second and pointed out that some London stipendiaries had taken the view that they could not go against the well-known principle of law that orders must be served personally upon defendants. A number of other legal arguments brought forward by counsel did not convince the magistrates who decided against the defendant and found that the order was properly served. Mr. Schultess-Young thought they were unique in their decision but the defendant was fined 10*s.* and costs (including 2*s.* 6*d.* for the vaccination officer) or 14 days' imprisonment in default.

"Beef Lard."

At Wednesbury police-court a short time ago a local shopkeeper was summoned for selling dripping containing 20 per cent. of cotton-seed oil. An inspector visited the shop and was shown a substance which he was told was supplied to the defendant as "beef lard" but which she sold as dripping. The defendant stated that she believed it to be dripping and the stipendiary in imposing a fine of £2 expressed his belief that she was acting unwittingly. After this case had been decided upon Andrew Clement and Sons, produce brokers, Greenwood-street, Manchester, were charged with selling beef lard which was not of the nature, substance, and quality demanded by the purchaser. The material supplied under this name to local shopkeepers was found to contain 50 per cent. of cotton-seed oil. The county analyst said he expected to find beef lard to consist of beef fat of the consistency of lard. He agreed that there was no standard fixed for beef lard but it seemed to him to be a name to deceive. The manager to a local firm said he had been purchasing beef lard from the defendants for two years and was under the impression that it was the waste or rough fat of the ox. He had asked the defendants whether it was beef dripping and had been told that it was not—that it was beef lard. For the defence a number of witnesses were called to show that beef lard was a well-known article of commerce and was understood to be composed in part of cotton-seed oil. One witness stated that he was formerly in Aberdeen with various American lard importers and that he sold beef lard as long as 14 or 15 years ago in Scotland. It was used for frying purposes and also for confectionery, these being the objects for which it was specially intended. Beef lard was not quoted upon any of the markets but customers knew perfectly well what its ingredients were. Lewis Maclellen, oil importer and refiner, Glasgow, said that an extensive trade was done in this substance in England, Scotland, and Ireland, the trade in England having been developed in quite recent years. It was used for purposes for which beef fat was too hard and the cotton-seed oil was used to reduce it to the consistence of lard. A member of a firm of biscuit manufacturers at Wigan said that he had used beef lard for 15 years, buying it in tons at a time. He should think that nearly all biscuit manufacturers used it. He quite understood that it contained cotton-seed oil; unless it did it would not answer its purposes. Other witnesses gave evidence that beef lard was in common use in the north of England and that the term was well understood. The stipendiary magistrate said the case arose because of the unfortunate name given to the compound. He would not say it was invented to deceive the public but there was no doubt that the name lent itself to deception. He, however, must find that it was a well-known article on the market and that no standard had been fixed for it. It was sold as beef lard and the purchaser received it as beef lard. In these circumstances he dismissed the case.

Opening of the Medical Session of the University.

The opening of the medical session of the University took place on Oct. 5th, when a conversazione was held in the medical buildings. The Dean, Professor B. C. A. Windle, F.R.S., received the visitors who numbered over 250. The principal feature of the evening was the address which was delivered by Sir Victor Horsley, F.R.C.S. Eng., F.R.S., the Dean of the Faculty being in the chair. Sir Victor Horsley's address was a vigorous reply to Sir William Anson's speech at Manchester and an earnest demand for a larger measure of State aid for university institutions and for medical education. Under the present Government, he said, the Education Department had been placed in the hands of those whose ideas are regulated by the sterile training in dead languages and somewhat moribund system of philosophy, unfortunately characteristic of an old University like Oxford. Apparently it had not occurred to the Parliamentary Secretary of the Board of Education that to the ordinary person the obvious way of obtaining an intelligent population was to provide it with the highest and best means of educating itself and to increase those means in the midst of every populous district. Alluding to the chaotic condition of medical education and medical examinations and referring specially to the difficulties which have arisen between the General Medical Council and the Royal Colleges in England the lecturer earnestly advocated the establishment of a "one-portal" system. When this had been attained the universities would be free to pursue their proper policy of imparting the highest knowledge to their students and would be freed from the task of giving a mere qualification. He suggested that the degree of M.B should be abandoned since it was really only a kind of licence to practise, that universities should give no degree to any student who had not previously obtained a medical qualification to practise, and that the degree then given should be that of doctor of medicine. He admitted that at the present time want of funds made it almost impossible for any university to adopt such a policy, but that such a reason could be put forward was an eloquent testimony of the need for further and generous endowments of medical as well as other branches of university education. It was unjust to expect the parents or guardians of students to bear the heavy expenses of professional education. The alternative was State aid. He suggested that while the British Association was endeavouring to educate public opinion on the necessity of making university maintenance a prominent political question, the universities should coöperate and agree upon a definite programme of State aid. A vote of thanks to the lecturer proposed by Principal Sir Oliver Lodge and seconded by Professor H. G. Barling was warmly accorded.

Oct. 6th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Royal Albert Asylum and Tuberculous Patients.

THE seventh quinquennial festival of the Royal Albert Asylum, Lancaster, was celebrated on Sept. 23rd. Sir J. T. Hibbert presided. He said that Lancaster, including Lord Ashton's donation of £15,000 for the new wing, had contributed no less than £36,321 and, in addition, through Sir Thomas Storey it had given the Storey House for 40 trained feeble-minded girls at a cost of between £7000 and £8000. Since it was started in 1864 no less than £467,000 had been given by men and women living in the seven northern counties. The report stated that a large number of patients suffered from tuberculosis, but Sir J. T. Hibbert hoped that by the aid of benefactors and out of their own funds they would make some attempt to deal with these patients. Dr. W. S. Paget-Tomlinson of Kirkby Lonsdale emphasised the importance of definite action being taken to deal with tuberculous cases and suggested the erection of a small wooden annexe or bungalows, towards which, if the idea were taken up, he would subscribe £100. Dr. W. W. Wingate-Saul of Lancaster also announced that he would erect a chalet in the asylum grounds for the treatment of tuberculous patients. This generous action by members of our profession was much appreciated by the meeting. The after-care of those who have training at the asylum has been a matter causing anxiety. It is difficult for a person of feeble intellect to find employment after leaving the institution and some have had to return to the workhouse they came from. At the luncheon the Earl of Derby said there was a great want of provision for the care of the feeble-minded and an effort was being made to rouse the Government to a sense of the importance of the question. "Custodial asylums were much needed and also homes for those who had undergone training but had no friends able or willing to look after them." In the census of 1901 the number of imbecile or feeble-minded persons was returned as 48,882, or one for every 665 of the population. In the United States the proportion is said to be one to every 600 of the population.

The Use of Patent Medicines.

On Sept. 23rd Mr. E. A. Gibson, the Manchester coroner, concluded an inquest on a child, five months old, who had been treated by the parents with a quack medicine called "Jackson's febrifuge." Dr. Ashby made a post-mortem examination and found that the child had broncho-pneumonia. After seeing the analysis of the medicine he said that it would do no good and no harm, but would take the place of more efficient remedies. Mr. Estcourt, the city analyst, "found that it contained ammonium chloride, potassium chloride, potassium sulphate, sodium sulphate, sugar, ipecacuanha, camphor, cloves, ginger, liquorice, and probably rhubarb, and a small quantity of chloroform"—a fine sample of poly-pharmacy. Dr. Ashby, in reply to a question, said "he was very much surprised to learn that last year 2184 gallons of the medicine, equal to 87,360 shilling bottles, had been sold." The defendant's solicitor said: "It is used by a number of members of the Manchester city council, ministers of religion, and magistrates." Dr. Ashby: "Ministers of religion will do anything. I don't know about city councillors." It is curious that among the former class there is so strong a leaning to quackery in all its forms. The coroner said there was nothing connecting either the febrifuge or Jackson with the death of the child but that death was probably due to lack of treatment owing to the ignorance of the parents and their reliance "on this worthless stuff." Upon this summing up there followed the verdict of "Death from natural causes." The coroner added that it was a public misfortune that such an article as "Jackson's febrifuge" should be in the market and have such a wide circulation.

Bolton Infirmary.

The honorary treasurer of the Bolton Infirmary has received a cheque from the chairman of the Hospital Saturday Fund for £2780. This is a little more than last year's contribution.

A Faith-Healer.

The case of a man charged with wilfully ill-treating and neglecting his daughter was tried at the City Sessions on Oct. 1st. It illustrates the marvellous absence of common-sense displayed by some of the fanatical followers of the so-called Dr. Dowie. The child on Sept. 3rd fell down some steps and broke her right collar bone. On returning home the father was told of the accident and the mother wished to send for a medical man, but he would not allow it and instead knelt down and prayed. So things went on, though the mother again tried to get his permission to take the child to a medical man, till Sept. 8th when he allowed her to be taken to a druggist. The druggist said that the bone was broken and advised her being taken to the infirmary. But the father would not allow this. On the 11th an inspector of the Society for the Prevention of Cruelty to Children interposed and the father took the child to the place where his sect held their meetings, apparently to enable the elders to pray over her. It was not till Sept. 21st that by an order of the court an inspector of the society took the child and she was properly attended to. The defendant gave evidence on oath and said that one of the principles of his Church was that "all cures were effected by means of faith and prayer." He is said to have sent a telegram to "Dr. Dowie" at Zion City asking for his prayers but had had no reply. If he prayed without replying "it was quite certain," as the prosecution said, "that the prayer was not answered" till the child was medically attended. It is curious that in these days anyone can believe the pretensions of Dr. Dowie or of people like him, but this man no doubt believes in him. He said he had believed in divine healing for three years. When 18 years of age he heard something—apparently not flattering—about the medical profession "and he fell on herbs." Afterwards he took up hydropathy. "Now he had got the divine truth—a truth of God." He is not alone in his notions, for several witnesses expressed their belief in "faith healing." The recorder said the question was, had the defendant wilfully neglected the child so as to cause her unnecessary suffering or to be a disadvantage to her health? The jury found that he had and he was sent to gaol for a month with hard labour. Probably from his fellow fanatics he will receive honour and glory as a martyr and will retain his faith, but society, and more particularly children, who are the chief sufferers, must be protected from the consequences of pernicious doctrines leading to cruelty, even if they are held honestly.

Oct. 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University of Liverpool: Opening of the Winter Session of the Medical Faculty.

THE first public function associated with the University of Liverpool took place on Oct. 1st, when, in the Arts Theatre of the University buildings, the winter session of the medical faculty was opened by a distribution of prizes by Sir Dyce Duckworth. In the absence of the chancellor (the Earl of Derby, K.G.), the vice-chancellor (Principal Dale) presided over a large and representative assembly. As is customary on such occasions academical costumes were worn. Those present included the Lord Mayor, the Lord Bishop of Liverpool, Sir William M. Banks, Professor Bradley (Oxford), Major Ronald Ross, C.B., F.R.S., late I.M.S., Professor R. W. Boyce, F.R.S., Professor Moore (dean of the medical faculty), and Dr. James Barr. At the onset of his introductory address, as your readers will have seen, Sir Dyce Duckworth remarked that they must try to imagine the feelings of one who, having been born in Liverpool and having begun his preliminary studies in the humbler days of the Liverpool School of Medicine, returned after the lapse of so many years to take part in a ceremony memorable as that truly was that day, when they formally met for the first time as the newly constituted faculty of medicine of the University of Liverpool. He offered his warm congratulations to his fellow citizens on their wisdom and energy in seeking and securing the charter for their University. Lancashire men generally knew what they wanted, and what they wanted they commonly contrived to get; and, further, with what they got they were proverbially generous. Sir Dyce Duckworth made a complimentary allusion (for their prescience and untiring energy in promoting not only the welfare of that faculty but the establishment of the University itself) to his fellow graduates, Sir William

Banks, Dr. A. Davidson, Dr. Richard Caton, and Mr. Edgar Browne. He paid them this small tribute without any disparagement to the loyal and generous support afforded by others in the school, or to the munificent benefactors amongst their wealthy and enlightened fellow citizens. The Lord Mayor proposed a vote of thanks to Sir Dyce Duckworth for his able address, which was carried with acclamation.

Oct. 6th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Monmouthshire Health Report.

ALTHOUGH the Monmouthshire county council has not thought fit to appoint a county medical officer of health there has been issued for several years past an annual "review of the general sanitary condition of the county" founded mainly upon the annual reports of the district medical officers of health, with abstracts of, and comments on, those reports by the sanitary committee of the county council. The review for 1902 is signed by Dr. T. H. Redwood, the chairman of the sanitary committee, who is also medical officer of health of Rhymney urban district, and among the members of the sanitary committee are other district medical officers of health. The birth-rate for the county during 1902 was 17·8 per 1000 and the death rate was 17·8 per 1000. The lowest death rate was 11 per 1000 in Risca and the highest was 22·8 in Tredegar. The infantile mortality rate for the county was 142 per 1000 births; in Pontypool this rate was as low as 74 per 1000 births and in Abergavenny as high as 209 per 1000. The zymotic death-rate was 2·8 per 1000 in the county and in Bedwellty it was 6·9 per 1000. Monmouthshire is well known to have a low mortality from tuberculosis; it is of interest therefore to learn that in 1902 the death-rate from this disease was 0·74 per 1000; in the urban districts, however, the rate was 0·61 per 1000 and in the rural districts it was 1 per 1000. There are still ten of the 25 sanitary districts without isolation hospitals and the sanitary committee advises the county council to insist on the provision of means of isolation in these districts. There is only one district (Abercarn) provided with a steam disinfector; it is not at all surprising, therefore, to find that diphtheria and scarlet fever were prevalent in the populous urban districts during 1902. In Bedwellty, with a population of 11,000 persons, there were 203 cases of diphtheria, and in Ebbw Vale, where there is a population of over 23,000, there were 269 cases of scarlet fever. There does not appear to be any refuse destructor in the whole county, household refuse being disposed of on land or collected on tips. The sewage from most of the districts discharges into adjoining rivers, though in one populous part that is known as the Western Valleys there is now being constructed a main trunk sewer which will terminate in the Bristol Channel.

The Cost of Pauperism.

The statistical returns recently issued by Mr. E. B. Wethered, Poor-law inspector to the Local Government Board, are of considerable interest and show that in 34 of the 44 unions in his district there was an increase in the cost of maintaining the poor during the year ending Lady-day, 1903, compared with the previous 12 months, although the number of persons actually relieved on the first day of January, 1903, was in many instances lower than on the same date in 1902. In Gloucestershire the cost was £135,000, compared with £129,000 in the previous year, and in Bristol the cost was £66,700 compared with £64,000. The cost per head of the census population varied in Gloucestershire from 3*s.* 2*d.* and 4*s.* in the Gloucester and Bristol unions to 5*s.* 7*d.* and 5*s.* 10*d.* in the Cirencester and Wheatenhurst unions.—At the annual conference of the Plympton union parish council and parish association held at Yealmpton (Devon) on Sept. 30th Mr. Preston Thomas, inspector to the Local Government Board, stated that when he first went to the western district in 1896 he found that the Poor-law had not been very much looked into and he therefore took the course of continually bringing the subject before the boards of guardians. There were now 10,000 fewer persons in receipt of relief and upwards of £20,000 less spent in out-relief than when he first went to the district.

Glamorganshire Education Committee.

Dr. T. H. Morris, surgeon to the Tylorstown collieries in the Rhondda Valley, has been elected chairman of the education committee of the Glamorganshire county council.

Rent of Cottages in Newport.

It is stated on the authority of the local trades council that two-roomed tenements (of which there are not many) may be rented in Newport (Mon.) for 3*s.* 6*d.* per week, four-roomed cottages for 5*s.* 9*d.* per week, and larger cottages from 6*s.* 6*d.* to 10*s.* 6*d.* per week. Artisans are said to pay 25 per cent. of their wages in rent and labourers 35 per cent. During the past six years rents have increased in Newport about 2½ per cent.

A Coroner on the Holding of Inquests.

On Sept 28th the coroner for Haverfordwest held an inquiry into the cause of death of a man, aged 59 years, who arrived in Haverfordwest from Llanelly on Sept. 25th and died on the following day. The medical man who was called to see him gave a death certificate, stating the causes as pleurisy and peritonitis, but on Sept. 28th a solicitor, on behalf of the relatives, telegraphed from Llanelly to the coroner demanding an inquest and post-mortem examination and adding that the deceased had upon him a considerable sum of money which had disappeared. The coroner therefore held an inquest and ordered a post-mortem examination which confirmed the diagnosis set forth in the death certificate. The jury returned a verdict of "Death from natural causes" and the coroner severely condemned the hasty action of the relatives, saying that the solicitor should have gone to Haverfordwest and made inquiries before causing an inquest to be held.

Enteric Fever at Merthyr Tydfil.

At the meeting of the Merthyr Tydfil urban district council, held on Sept. 30th the medical officer of health, Mr. D. J. Thomas, reported that there were 66 cases of enteric fever under treatment at the isolation hospitals. Owing to pressure of work upon the medical officer of health the council decided to provide him with an assistant for one month.

Bristol University College.

The inaugural lecture of University College, Bristol, was delivered on Oct. 5th by Professor R. M. Ferrier who gave an interesting address on Steamships—Past, Present, and Future. Mr. P. J. Worsley, J.P., presided and there was a large attendance. Professor Lloyd Morgan, in proposing a vote of thanks to the lecturer, remarked that undoubtedly if England were to keep her high position they must rise to the responsibility of their position intellectually and they must do their best for the higher education such as for years they had striven to give in the University College of Bristol—the embryo, he hoped, of the university for the west of England that was to come.

Oct. 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Is Insanity Increasing?

DR. J. CARSWELL, certifying physician in lunacy to the Glasgow parish council, has issued his annual report on the certification of lunatics for the year ended May 15th, 1903. He states that 840 applications were made to the inspector of poor on behalf of persons supposed to be insane. Of these, 549 were certified as insane while 291 were not certified; but a very important fact is brought out showing that of the uncertified cases 242 (the majority of whom were men) were treated in the temporary observation wards at Barnhill; 193 of these were discharged recovered, the patients being, as a matter of fact, nearly all "alcoholics," while only 36 were subsequently removed to an asylum. There is sufficient evidence here to show the advantage of such wards and there can be no doubt of the wisdom of the parish council in making further provision for these unconfirmed and incipient cases of insanity in the new mental hospital which is a part of one of the two general district hospitals at present being erected in Glasgow. This mental hospital is the first of the kind in the kingdom and will supply for Glasgow a means of treating incipient cases without the necessity of certifying the patients as insane and sending them to an asylum. The number of cases certified as insane this year—549—is exactly equal to the average number for the three years 1901-03 and represents as certified 65·4 per cent. of the total applications; 162 had suffered from previous attacks of

insanity and the remaining 387 represent the actual number of persons who became insane for the first time during the year. This is 19 less than last year and the proportion per 100,000 of the population is 65·5 compared with 70 last year. This is taken as indicating a satisfactory movement as regards the actual production of insanity. Dr. Carswell further expresses his views very strongly, and they are new, regarding the general impression that there is an increase of insanity. The steady increase in the numbers resident in asylums would indicate that there was such an increase but he holds that while there are more registered lunatics there is not necessarily more insanity. He produces tables showing the age and sex distribution of first attacks of insanity and the rate of production per 10,000 persons living at each age period during the years 1901–03, examination of which proves (1) that the rate of production at ages below 45 is tolerably constant, that it is almost identical for males and females, and that it shows no tendency to increase (on the contrary, during last year there was a decided decrease); and (2) that there is a decided increase in the rate of production above 45 years of age and this most marked in males. By reference to the fortieth annual report of the Commissioners in Lunacy Dr. Carswell shows that throughout Scotland during the ten years period 1887–96 some influences had been in operation which had the effect of increasing the number of admissions to asylums at ages above 40 years at a much greater rate than at ages between 20 and 40 years and had the further effect of changing the age period which produced the highest number of admissions (omitting the periods under 20 and over 70 years) per 100,000 of population from 30–40 to 40–50. The figures relating to Glasgow reveal the operation of those influences common to the whole of Scotland though varying in their effects according to local circumstances. These influences are connected with the social and the industrial conditions which have prevailed during the last half century, associated as they have been with the great philanthropic movement which has so profoundly influenced local government in all its branches. During the young and active period of life the industrial classes in Glasgow have practically no struggle for existence. Employment for them is abundant and with prudent habits their health, which is their capital, is almost completely protected by public authority. Consequently the production rate of insanity during the earlier periods of life is not increasing and is not too high relatively to existing conditions. The real struggle for existence among the working and labouring classes only begins in middle life and towards later years. The competition then begun finds the drunken and incompetent unequal to the new conditions and insanity is one of the forms in which such incompetence is expressed. A person who cannot find work on account of mental deficiency or disorder becomes a financial burden upon some one, and as the increasing competition makes it increasingly difficult for persons so afflicted to find employment the tendency is to take advantage of asylums for their custodial care. Asylums being rate-supported, it is only reasonable that the public should increasingly use them for the care of persons who might be otherwise cared for under easier and simpler industrial and domestic conditions. Whatever explanation may be adopted regarding the causes that underlie the production of insanity, such explanation must take account of the stability of the sex and age distribution of cases under 60 years not only in Glasgow but all over Scotland, and it would seem that the above explanation fulfils this condition. On the other hand, while intemperance, for example, is a factor of great importance in the question of the cause of insanity, yet such a cause coming into operation would show considerable fluctuations in the sex and age distribution over a series of years, the very thing which does not occur; so with the other so-called primary causes. Dr. Carswell's conclusion, then, is that certain influences, mainly social and economic, have been in operation during a period of over 50 years which have had the effect of improving the condition of the people and at the same time of filling the asylums. The contradiction is only apparent and the increase is an increase of lunatics under public control but not an increase of insanity. An obvious practical conclusion drawn is that existing conceptions of the character of the accommodation required for the care of the insane stand in need of revision. The recovery-rate of asylums has gone down coincidently with the changes in the character of admissions. There is consequently an accumulation of incurable lunatics and the need that now exists for merely custodial care for a considerable proportion of the patients is more apparent than when the existing asylums were built.

Oct. 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Local Government Board and the Granard Guardians.

THE quarrel between the Granard board of guardians, their medical officer, and the Local Government Board of Ireland, maintains its professional interest. A sealed order removing the master of the workhouse was duly received with a letter calling upon the board of guardians to take steps for the appointment of a suitable person in his stead. After a long discussion a motion was passed unanimously that he be appointed to the temporary mastership of the workhouse until the next meeting on Oct. 5th. On that day a letter was read from the Local Government Board authorities requesting the guardians to make suitable arrangements for the discharge of the duties of master of the workhouse and pointing out that if the guardians persisted in retaining the late master they would themselves feel constrained, under the powers vested in them, to nominate a master. The guardians forthwith passed a motion to "hold on" to the master "no matter what the cost might be, as they had strong opinions he was not getting fair play."

St. Vincent's Hospital, Dublin.

The address introductory to the medical session was delivered at St Vincent's Hospital, Dublin, on Oct. 6th by Mr. R. F. Tobin who chose for his subject the present position of the Irish Poor-law medical service. The lecturer could not have selected a topic of more vital importance to Irish medical men. The claims of the Irish Poor-law medical service are urgent, as all your readers know.

Some Questions about the Public Health of Belfast.

Since the publication of Professor Lorrain Smith's "Report on the Occurrence of Typhoid Fever in Belfast" considerable discussion has taken place in the city upon the many matters of vital importance, medically and socially, which have been brought into prominence. The chairman of the water commissioners has submitted his criticism[1] and on Oct. 1st the local papers published a manifesto from the chairman of the public health committee who, apart from several minor details, is generally in agreement with the results and recommendations embodied in Professor Smith's report. Speaking of hospital accommodation the chairman of the public health committee says that his committee for the past 15 years has been labouring to convince the corporation of the necessity for hospital accommodation for the respectable poor of Belfast who do not wish to have the stigma of pauperism attached to their names. Year after year this subject has been brought forward and has met with very strenuous opposition in the most unexpected quarters, and it is only within the past year that all the difficulties of the case have been overcome and the contract signed for the erection of a first-class infectious diseases hospital in one of the healthiest sites in Ireland (Purdysburn). I regret that this was not accomplished years ago, as the public health committee urged, in which case we should not be in the anomalous position we are now placed in. Curiosity is aroused as to who in the corporation opposed the erection of an infectious diseases hospital. Surely if at any time during those 15 years the chairman of the public health committee, finding that the recommendations of his committee were not attended to by the rest of the corporation, had resigned his post and had given his reasons to the public, his position would have been indorsed and years ago Belfast would have been provided with a modern fever hospital. In the meantime the chairman of the public health committee appeals to the guardians to convert the workhouse fever hospital into a district hospital—a policy that seems to clash with his statement which I have quoted that hospital accommodation is particularly required unconnected with the stigma of pauperism. The guardians declined when first asked by the public health committee to take any action in the matter. Will they take a more public-spirited course now? There seems to be little real attempt made to face any difficulty or emergency

[1] THE LANCET, Oct. 3rd, 1903, p. 983.

in public health. Belfast at the present time has not an available bed for persons of the middle classes suffering from infectious disease who are willing to pay for their reception, and this anomalous state of affairs will continue for three years until the new hospital is ready. To meet the difficulty the public health committee might have taken over the old Royal Hospital which was offered to it or it might have advised the erection of temporary iron buildings at Purdysburn as it was compelled to do for cases of small-pox. In taking either of these courses the committee would have satisfied public opinion but instead of this it intends to ask the guardians to reconsider the idea of a conversion of the workhouse fever hospital. Will this course remove the reproach from Belfast of having 'the highest typhoid death-rate of any city in the world'? It is announced that the public health committee is still considering Professor Smith's report and will bring it before the council. There will be discussion, but will it be followed by action?

The Lord Mayor of Cork and the General Superintending Medical Officer of Health.

Some weeks ago vacancies occurred for two sub-sanitary inspectors in Cork and it was decided that the candidates should be examined by Mr. D. D. Donovan, general superintending medical officer of health, and by Mr. O'Keeffe, executive sanitary officer. The report of the examiners showed that one of the three candidates had scored 55 marks out of a maximum of 75 and was far ahead of the other two. The public health committee, however, with the report of the examiners before it appointed the two men who had comparatively failed in the examination. When the minutes of the committee came before the town council there was an animated discussion and the Lord Mayor strenuously indorsed the action of the committee on the grounds that the examination was the merest farce, a statement which he repeated in emphatic terms. However, a large majority of the council viewed things differently from his lordship and the candidate who had been successful in the test was very properly appointed to one of the vacancies. The Lord Mayor's references to the examination have been very severely criticised and have provoked much indignation, especially as Mr. Donovan is a very active medical officer of health and enjoys the esteem and confidence of his fellow citizens. On Oct. 3rd there was a meeting of the medical profession to consider the matter when the following motion was passed unanimously:—

> That we, the members of the Cork medical profession, view with the greatest indignation the unjust observations which were recently made in public by the Lord Mayor with regard to the examination held for the post of sub-sanitary officer by our medical officer of health, Dr. D. D. Donovan, and we wish to express our entire confidence in the skill and integrity of our medical officer of health and in the manner in which he has on all occasions faithfully discharged his duties.
>
> Oct. 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

After the Plague.

Now that the epidemic is quite over the sanitary administration has begun to be severely criticised with the object of profiting in the future by the experience which it has just undergone. The chief criticism is concerned with the lazaretto at Frioul in which passengers coming by ships from foreign parts and suspected of plague are kept. As soon as the recent epidemic was notified the municipal administration very naturally wished to isolate its suspects in this lazaretto which is situated upon an isolated island where surveillance is easy and which was erected for this very end. To the surprise of everybody the sanitary authorities refused to receive these patients, declaring that the Frioul lazaretto was entirely under the maritime authorities and that its object was the reception of patients before their landing on French soil, and, moreover, that the establishment had not sufficient room to receive patients from the town and that means for revictualling (*ravitaillement*) were scanty. That was the reason why the municipal administration of Marseilles had to lodge its plague patients in some buildings kindly lent for the purpose by M. Salvator, which were transformed into a special hospital. It is very probable that the lazaretto of Frioul, which has already been the subject of lively criticism at the sittings of the Academy of Medicine, will in a very short time be discussed again. On the other hand, the town of Marseilles has appealed to the Minister of Foreign Affairs to ask that the divers Powers which have just put into force severe quarantine measures against merchandise coming from Marseilles should recall these measures. The Marseilles municipality argues that these measures are due to an exaggerated view of the danger and are apparently inspired by commercial rivalry which has seized upon the occurrence of plague as a pretext. Italy, Spain, Greece, Turkey, and Uruguay have signalised themselves by formulating very severe quarantine laws. As it appears that there is no doubt that the Marseilles plague was brought from Constantinople this seems somewhat odd.

The Old School of Medicine and the Old Academy of Medicine.

Some years ago the municipal authorities of Paris bought up the ancient buildings which belonged to the first school of medicine founded in Paris. These buildings had been scheduled as *monuments historiques* and it was intended to turn them into a museum of medicine and surgery. However, this idea had to be given up, for when the repairs were begun it was found that the buildings were on the point of collapsing and that it would be dangerous for the public to visit them. So the Paris Society for the Protection of Ancient Buildings (Commission du vieux Paris) is going to inquire into the possibility of preserving a portion which seems capable of repair or else of pulling down the whole structure. The old buildings of the Academy of Medicine have also been put into the restorer's hands and they have found how singularly insanitary was the small hall where the council used to meet. On the carpet being taken up no less than ten others were found, one on the top of the other underneath the first. They were all very old and thick with dust. No very vivid imagination is required to conceive of the number of microbes existing therein.

Obituary.

Dr. Fochier, professor of clinical obstetrics in the Lyons Faculty of Medicine, died suddenly on Oct. 2nd in the rector's antechamber.

Public Health of Madagascar.

At the meeting of the Academy of Medicine which was held on Oct. 6th M. Kermorgan read a long report upon the sanitary work which has been accomplished in Madagascar by General Gallieni. Once more are evident the admirable results which can be arrived at when an energetic administrator who is given a free hand works with a will. When General Gallieni arrived in Madagascar the island was decimated by malaria, alcoholism, small-pox, and syphilis. General Gallieni set to work with vigour and has founded a native school of medicine, a Pasteur institute at Tananarivo, a vaccine farm at Diego-Suarez, 20 hospitals containing 1300 beds, four lazar houses containing 1200 lepers, and two more in process of construction. Besides these, stations where medical relief can be obtained are being multiplied. To these works must be added the colonial hospitals and various institutions supported by private charity, one maternity hospital, two lazar houses for 900 lepers, and two ordinary hospitals. The total expenses for sanitary service during the year 1902 amounted to nearly 1,000,000 francs, which sum has been partly obtained by a tax of three francs per head of inhabitants, called the medical aid tax. The number of patients in the ordinary hospitals was 11,134, the number of lepers in the lazar houses was 2540, the number of vaccinations performed was 150,056, and 749,485 patients obtained advice and medicine. Owing to the admirable exertions the death-rate has gone down and the birth-rate has gone up in a notable fashion. Small-pox has almost completely disappeared from the central table-land, although it still exists in some provinces. Severe measures have been taken to put down alcoholism and no native is allowed to keep a drink shop. Leaflets have been distributed and medical advice with medicine has been given with the result of already diminishing syphilis in a very marked manner. The Governor is actively engaged with the question of leprosy. The central table-land contains over 4200 lepers, of whom 2540 are in the various lazar houses while some 1800 live with their families or wander from place to place. The new lazar houses which will be ready this year will reduce this number to 800. When it is remembered that three out of every 1000 inhabitants of Madagascar are lepers it will be seen that the time for action had arrived.

The Inoculation of Syphilis in the Monkey.

Three chimpanzees, two females and one male, have been successfully inoculated with syphilis by M. Roux and M.

Metchnikoff. The first female inoculated has died, not from syphilis, but from a throat affection characterised by the formation of membrane which was, however, not true diphtheria. The disease was contracted from another monkey which is also dead. The syphilitic lesions were quite characteristic and included chancres, secondary rashes, and mucous plaques, together with the typical glandular swellings. Doubt has been thrown on the value of these experiments, but it would appear to be certain that if a chimpanzee can be infected with syphilis by inoculation it will be able to be proved that if inoculation with attenuated virus does not infect the chimpanzee it will also not infect human beings, and such an experiment has been impossible to make heretofore.

Oct. 6th.

Medical News.

UNIVERSITY OF GLASGOW.—The following candidates have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., botany; Z., zoology; P., physics; C., chemistry):—

Wallace Wright Adamson (Z.,* C.), Alexander Anderson (B., Z.,* P.,* C.*), David Anderson (B., P.), James Montgomery Anderson (B.), John Atkinson (C.), Robert Inglis Binning (Z., C.), Robert Rankin Bow (B., P.*), John Lindsay Boyd (B.,* P.), Murdo Buchanan (B., C.), James Cairncross (Z., C.), James Cairns (B.,* P.), William Rome Cammock (B., P.*), Thomas Hay Campbell (B., P.*), James Carrick (B., P.*), Alexander Beck Cluckie (Z., C.), John Humphrey James Victor Coats (Z., P., C.), James Cook (B., P.), Alexander Johnston Couper (Z.), James Robert Craig (B., P.,* C.), Charles Adolphus Crichlow (B., P.), Neilson Davie (Z., C.*), Alexander Dick (C.), John Alexander Doctor (C.), James Dunbar (C.), Donald Duncan (B., P.), Leonard John Dunstone (B., P.), Alexander Wylie Eadie (Z., C.), William Marley Elliott (B., P.*), Archibald Fairley (B., P.,* C.), Thomas Loudon Fleming (Z.), Thomas Forsyth (Z., P., C.), William Leonard Forsyth (B., P.), John Fotheringham (B., C.), George Muir Fraser (Z.,* C.), Samuel Nichol Galbraith (B., P.), Berkeley Gale (B., P.), Hugh M'Vicar Gossman (Z.), Robert Govan (Z.,* C.), Henry Maxwell Granger (B., Z., C.), John Vincent Grant (B., C.), James Dow Gray (Z., C.), Thomas Edmondstone Gray (B., P.*), William Cooper Guun (B., C.), David Hamilton (Z., C.), Thomas Harkin (Z., C.), John Mitchell Henderson (B., P.), James Hall Hislop (B.), William Alexander Hislop (Z.), Archibald Hogg (B., Z.), Benjamin Hutchison (B., P.*), Andrew James Hutton (B., P.*), Alexander Mills Kennedy (B., P.*), Charles Lawson Kerr (B., Z., P., C.), Robert Lauder (P.), Daniel Conway M'Ardle (P.), Peter Cunningham M'Arthur (Z.*), Ernest Bowman Macaulay (B.), Alexander Macphail Macdonald (B., P., C.*), Alexander Tulloh Inglis Macdonald (B.,* P.*), James M'Donald (C.), Neil MacInnes, M.A. (B., Z., P.), William Campbell Mackie (B., P.), Allison David M'Lachlan (Z., C.), Donald Cameron Maclachlan (B., Z., P., C.), William Edward M'Leiland (B., Z., P.), James Walter M'Leod (B., P.*), James M'Millan M'Millan (B.), Donald Irvine M'Naughtan Z.), Arthur Norman Roy M'Neill (B., P.), Murdo Mackenzie MacRae (Z., C.), John M'Vittie (B., Z., P., C.), Andrew Maguire (B., C.), David Manson (B., P.*), James Hogg Martin (B., P.), David Rogerson Mathieson Z., P.), Horatio Matthews (Z.*), William Spence Melville (Z., P.,* C.), John Wilson Miller (C.), Thomas Miller (B., C.*), James Robertson Mitchell (Z.,* C.), Hugh Walker Moir (B.), Robert Charles Muir (B.), Archibald Campbell Munro (B., P.*), Arthur Alexander Murison (C.), Isaac Papiermeister (B., P.*), Ralph Montgomery Fullarton Picken (B., P.*), David Purdie (B., P.), Richard Rae (B., P.*) Daniel M'Kinlay Reid (C.), Donald Renton (P., C.), Benjamin Robertshaw (B., Z., P., C.), Thomas David Coulthard Ross (Z., C.), Alexander Scott (B., P.), George Waugh Scott (B., Z.), Robert Ephraim Selby (B.), James Anstruther Smith (P., C.), John Steedman (C.), Andrew William Milne Steele (P.), James Alexander Stenhouse (B., C.), Campbell Kay Stevenson (B., P.), Edward Ernest Stewart (Z.), John Stewart, M.A. (Z., C.), Lawrence Storey (B., Z., P.), Hugh Cochrane Storrie (B.), John Anderson Struthers (C.), John Martin Taylor (B., P.*), Robert Scott Taylor (Z., C.), David Alexander Thomson, M.A. (B., C.), Hugh Johnstone Thomson (B.,* P.*), John Archibald Thomson (Z.), Martin Turnbull (P.), John Morris Walker (Z., C.), Thomas Charles Dalrymple Watts (Z.), Hugh White (C.), Charles Percival Williamson (B.), David M'Gruther Wilson (B., P.), Frank Ritchie Wilson (B., P.), Garabed Yeghia Yardumian (B., P.), Hugh Young (B., P.), John Young (B., P.), and Matthew Young (B., P.*).

Women.—Margaret Gardner Forrest (Z.), Margaretta Hope Douglas Kelly (B., Z.), Alice Hilda Macalpine (B., Z.), Annie M'Crorie (Z.), Flora Morrison (B., Z.), Jane Isabel Robertson, M.A. (B., Z.), Olive Robertson (B., Z.), and Margaret Elizabeth Rutherfurd (B., Z.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., anatomy; P., physiology; M., materia medica and therapeutics):—

George Allison Allan (M.*), George Victor Anderson (P.), James Henderson Baird, B.A. (M.), Hugh Barr (M.), George Duncan Morrison Beaton (A., P.), George Thomson Bogie (A.), Charles Burns (A.), Donald Livingston Carmichael (A.), John Paterson Carmichael (M.), Charles Game Angus Chislett (P., M.), Donald Clark (P.), Thomas Goodall Copestake (A.), Andrew Donaldson Cowan (P.), Harold Windley Dempster (A.), John Shaw Dunn, M.A. (M.), Eric John Dyke (M.), Hamilton William Dyke (M.), Edward John Fitzgerald (A., P.), Thomas Henderson Forrest (P.), Joseph Glaister (A., P.), Alexander Graham B.Sc. (M.), John Isdale Greig, M.A. (A., P.), William Grier (M.), Charles Francis Dyer Hammond (A., P.,* M.), John Hammond (M.), Saul Hyman Harris (A.), James Duncan Hart (A., P., M.), Frank Hauxwell (P., M.), Lawrence Hislop (P.), Alexander Hunter (A.), James Hunter (A., P.,* M.*), Harry Stewart Hutchison (A.,P.*) William Boyd Jack (M.), Arnold Ernest Jones (P.), Percy James Kelly (M.), William Love Kirkwood (M.), Robert Wright Leckie (P.), George Hugh Logan (A.), Peter Lowe, M.A., B.Sc. (A.), Thomas M'Cosh (M.), Duncan M'Ewan (A., P., M.), Hugh Allan Macewen (M.), James Denniston Macfie (A.), John Macintyre (A.), William Macleod (M.), Hugh MacNaught (A., P., M.), Norman Smith MacNaughtan (P.), William Hislop Manson (A., P.), Robert May (M.), John Moffatt (A.), John Dunn Nisbet (A.), Thomas Thomson Rankin (M.), John Reid (A., P.), William Rolland (M.*), Alexander Cappie Russell (M.), James Stevenson (M.), Arthur Anderson Stewart (P., M.), Daniel Stewart (M., John Logan Stewart, M.A. (A., P.,* M.), Thomas Strain (M.), William Alexander Stuart (M.), Joseph Roderick Sutherland (A., P.,* M.), Thomas Thom (M.), William Lind Walker, M.A. (M.), George Young (M.), and John Young, Mount Vernon (P., M.).

Women.—Jeannie Thomson Clark (M.), Mary Theresa Gallagher (A.), Katharine Robina Margaret Lucas (P.), Edith Oversby (P., M.), and Christina Gibson Thomlinson (A., P., M.).

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

Scott Campbell Adam (P., M.), Andrew Blair Aitken (P.), Henry Graeme Anderson (M.), James Richard Sumner Anderson (P.), Robert Daniels Bell, M.A. (P., M.), Thomas Brodie (P., M.), Robert Buchanan Carslaw, M.A. (M.*), David William Davidson (P.), Thomas Thornton Macklin Dishington (M.), Hugh M'Millan Donaldson (P.), George Horn Downie (P., M.), Hugh Harvie Fulton (M.), Donald John Gollan Grant (P., M.), George Munn Gray (M.*), Alexander Robertson Forrest Hay (P., M.), Archibald Yuill Hutchison (P.), Arthur Innes (P., M.*), James Rutherford Kerr (P., M.), John Kerr (P.), John Bertram M'Cabe (M.), Donald Carmichael M'Cormick (M.), Neil M'Dougall (P.), Tom Duncan M'Ewan (M.), Duncan Macfadyen (M.), John M'Farlane (M.), Alexander Stuart Murray Macgregor (P.,* M.), Milne M'Intyre (M.), Charles Gordon Mackay (P., M.), Roderick MacLeod (M.), James Marshall (P., M.), David Robertson Mitchell (M.), Gavin Denholme Muir (M.), John Murdoch (P., M.), Frank Anderson Murray (P., M.), Thomas Orr (M.), Howard Henderson Patrick (M.), John Pearson (M.), Alexander MacMillan Pollock (P.), Andrew Maclean Pollock (M.), James Porter (M.), William Murdoch Rae (P.), Daniel Stevenson Richmond (P.), James Watson Richmond (P., M.), Campbell Ross (M.), John Macdonald Ross (M.), John Samson (M.), William Herman Sieger (M.), Robert Wilfrid Simpson (P., M.), George Goldie Smith, B.Sc. (M.), James Alexander Somerville (P.), James White Thomson (M.), David Watson Wilson (M.), George Wilson (P.), and James Wyper (P.).

Women.—Bethia Shanks Alexander (P.), Roberta Campbell (M.), Ethel Lily Chapman (M.), Mary Lauchline M'Neill (P.), Margaret Walker Millar (P., M.), Ethel Jane Mildred Pryce (P., M.), and Annie May Yates (P., M.)

* Passed with distinction in the subjects indicated.

Mr. Robert Stewart M'Kim, M.A., has passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.).

MEDICAL MAGISTRATE.—Mr. Arthur C. J. Wilson has been placed on the commission of the peace for the West Riding of Yorkshire.

DEATH OF A CENTENARIAN.—John Lerrin, who was 102 years of age, died recently at St. Austell (Cornwall) Workhouse and the master reported the fact to the guardians at their meeting on Oct. 2nd.

THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At a stated meeting of the College held on Oct. 2nd Mr. Thomas Greenhalgh, L.R.C.P. Irel., 1868, was admitted to the grade of Member of the College.

LITERARY INTELLIGENCE.—The Walter Scott Publishing Company, Limited, are just adding a notable work to their "Contemporary Science Series"—namely, "Morals: A Treatise on the Psycho-Sociological Bases of Ethics." It is a translation of Duprat's famous book, "La Morale," made by W. J. Greenstreet, M.A., headmaster of Marling School.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 2nd, when Dr. Leslie Durno delivered the presidential address on "A 25 Years' Postgraduate Course in Sepsis and Antisepsis." He said that Lord Lister first declared that fermentation in wounds was due to the presence of bacteria and later prevented that change by the use of carbolic acid solution. Noting the changes that had taken place in the methods of antiseptic dressings from the early days to the present time, Dr. Durno reviewed the various agents by the use of which power over organisms was exercised, classing them as (1) exclusive; (2) inhibitive; (3) attenuative; (4) neutralising of ptomaines;

(5) mechanical; (6) dehydrating; (7) oxygenating; and (8) deoxygenating. The various infecting sources were reviewed and mention was made of several processes in the treatment of wounds, of instruments, and of the hands. The address was heartily applauded.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Richard Pott, professor of children's diseases in the University of Halle.—Dr. M. D. Chaussoff, professor of anatomy in the University of Warsaw.—Dr. James F. Hibberd, formerly professor of physiology and general pathology in the Ohio Medical College, Cincinnati.—Dr. Marenghi, *privat docent* of general pathology in the University of Pavia.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. John Wyatt Pratt, M.R.C.S. Eng., L.R.C.P. Edin., L.S.A., who has practised for several years at Wiveliscombe, Somerset, has been presented with a purse containing £98 as a mark of respect and esteem by his friends and patients in the district.—The Newton Abbot (Devon) division of the St. John Ambulance Brigade on Sept. 28th celebrated its team's success in winning the challenge cup offered as a prize to be competed for by the ambulance teams of Devon and Cornwall at Redruth on Sept. 26th, and after dinner Mr Richard Henry Grimbly, M.R.C.S. Eng., L.S.A., was presented with a silver mounted cane in appreciation of his honorary services as instructor to the successful team.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The first meeting of this society for the session 1903–04 was held on Oct. 1st, when the following gentlemen were appointed office-bearers:—Sir J. Halliday Croom, honorary president; Dr. Thomas Richmond, president; Dr. J. Fraser Orr and Dr. A. E. Maylard, vice-presidents; Dr. Thomas Forrest, treasurer; Dr. Andrew Wauchope, secretary; Dr. James Weir, editorial secretary; Dr. G. H. Edington, seal-keeper; extra members of council—Dr. M. Dunning, Dr. R. T. Halliday, and Dr. Kelly; court medical—Dr. D. Macgilvray, Dr. H. L. G. Leask, Dr. T. K. Monro, Dr. John Stewart, and Professor R. Stockman. Dr. C. E. Robertson was reappointed a governor of the Victoria Infirmary. It was arranged that the annual dinner should be held on Oct. 15th.

THE VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.—The winter session of this school commenced on Oct. 5th at the headquarters of the London Rifle Brigade which have kindly been placed at the disposal of the senior medical officer by Lieutenant-Colonel Lord Bingham. There was an excellent muster of all ranks in both the advanced and junior classes and Brigade-Surgeon-Lieutenant-Colonel P. B. Giles announced that no more would be taken in either class after the next lecture. The officers who have been selected to take part in the instruction are Surgeon-Major W. Culver James, Surgeon-Major R. R. Sleman, Surgeon-Captain E. M. Callender, Surgeon-Captain E. W. St. Vincent Ryan, Surgeon-Captain C. S. de Segundo, Surgeon-Captain A. D. Ducat, and Surgeon-Captain J. A. Masters. The competition for the challenge bowl presented to the school by the late Surgeon-General J. B. Hamilton will take place on Dec. 7th.

CHARING CROSS HOSPITAL.—On Oct. 1st Sir Charles Wyndham presented the prizes won by the students at the hospital during the past year and delivered an address, an abstract of which will be found in another part of our present issue. The dean, Mr. Herbert F. Waterhouse, in his annual report stated that the hospital was completely closed for extensive building operations on July 18th and would reopen on Oct. 5th when it would be found that a complete transformation had taken place and that Charing Cross would in a few months, when all the buildings were completed, have with its convalescent home a service of 300 beds and a hospital as nearly approaching perfection in construction as was possible considering its position in the very centre of the greatest city in the world. It is understood that on Oct. 12th the governors of King's College Hospital will be called upon to decide whether or not their hospital shall be moved to the south side of the Thames. If, as seems almost certain, their decision be in the affirmative, there will then be no general hospital nearer to Charing Cross eastwards than St. Bartholomew's. The bulk of the patients who now seek advice at King's College will therefore probably go to Charing Cross Hospital and this, though throwing a further strain on the resources of the hospital, will greatly increase its usefulness as a field of clinical observation and research.—The following entrance scholarships have been awarded: The Epsom scholarship (100 guineas) to Mr. N. G. H. Salmon, the Livingstone scholarship (100 guineas) to Mr. R. H. H. Jolly, and a Universities scholarship (72 guineas) to Mr. W. D. Keyworth. Entrance scholarships have also been awarded to Mr. P. E. Stibbe (60 guineas) and to Mr. C. H. F. Atkinson (30 guineas).

UNIVERSITY OF CAMBRIDGE.—Mr. Howard Marsh, the new Professor of Surgery, was on Oct. 5th elected surgeon to Addenbrooke's Hospital.—The office of assistant surgeon is vacant by the resignation of Mr. Hubert Higgins.—Mr. R. C. Punnett, of Gonville and Caius College, has been appointed Demonstrator of Comparative Anatomy.—The chair of Physiology is vacant by the resignation of Sir Michael Foster, K.C.B., on Sept. 30th.—Under the will of the late F. J. Quick, B.A., of Trinity Hall, his trustees are directed, when several conditions are fulfilled, to transfer to the University an estate which eventually, when several annuities have determined, will amount probably to £70,000, "for the furtherance of study and research in the sciences of vegetable and animal biology."

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BALLANTYNE, T., M.B., Ch.B. Glasg., has been appointed Junior House Surgeon to the Blackburn and East Lancashire Infirmary.

BRIGGS, WALTER, M.B., Ch.B. Vict., has been appointed Senior House Surgeon to the Blackburn and East Lancashire Infirmary.

BRUCE, R. H. G., M.B., M.S. Aberd., has been appointed Certifying Surgeon under the Factory Act for the Friockheim District of the County of Forfar.

DUNCAN, A., M.B., M.S. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Moorfields District of the County of Antrim.

EDWARDS, R. T., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon and Secretary to the Aberystwyth Infirmary.

HARDY, FRANCIS A., M.D., C.M. Edin., has been appointed Medical Officer and Public Vaccinator for the Fulbeck District of the Newark Union and Medical Officer and Public Vaccinator for the Leadenham District of the Shelford Union.

HARRISSON, E. H., M.B., M.C., B.A. Cantab., has been appointed Certifying Surgeon under the Factory Act for the St. Neot's District of Huntingdon.

KENNEDY, A. D., M.B., Ch.B. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Ballachulish District of the County of Argyll.

ROBERTSON, J. MCGREGOR, M.B., Ch.B. Glasg., L.M., has been appointed Assistant Master of the Coombe Lying-in Hospital, Dublin.

THOMAS, EDWIN R., L.R.C.P. & S. Edin., L.F.P. & S. Glasg., has been appointed Medical Officer of Health of the Borough of Beaumaris.

PEARSE, T. FREDERICK, M.D., F.R.C.S. Eng., D.P.H. Camb., M.R.C.P. Lond., has been appointed by the Government of Bengal Lecturer on Hygiene at the Medical College, Calcutta.

POOLE, J. S., M.D. Canada, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

UNWIN, W. H., M.B. Lond., F.R.C.S. Eng., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WHITELEGGE, B. A., M.D., C.B., His Majesty's Chief Inspector of Factories, has been appointed President of the Epidemiological Society.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BILLINGSGATE HOSPITAL MISSION.—House Surgeon (Lady).

BRIDGNORTH AND SOUTH SHROPSHIRE INFIRMARY.—House Surgeon. Salary £100, with board and lodgings.

CAMBRIDGESHIRE, &c., LUNATIC ASYLUM, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120, with board, lodging, and attendance.

CARDIFF INFIRMARY.—Assistant House Surgeon. Also Assistant House Physician. Each for six months. Salaries at rate of £75 per annum, with board, washing, and apartments.

CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Senior Assistant Medical Officer. Salary £150 per annum, rising to £180, with board, lodging, and washing.

DARLINGTON HOSPITAL AND DISPENSARY.—House Surgeon, unmarried. Salary £120, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum with board, lodging, and washing.

GORDON HOSPITAL FOR FISTULA, &c., Vauxhall Bridge-road, S.W.—House Surgeon. Honorarium £15 15s. for six months or £40 for twelve months, with board and residence.

GOSFORTH CITY ASYLUM, Newcastle-upon-Tyne. Assistant Medical Officer, unmarried. Salary £140 a year, rising to £160, with apartments, board, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HOSPITAL FOR WOMEN, Soho-square, London, W.—House Physician for six months. Salary £30.

KIRKMAHOE PARISH COUNCIL, Dumfriesshire, N.B.—Resident Medical Officer and Vaccinator. Salary £30 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £30, with board and lodging.

MARGATE, ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon. Salary at rate of £80 per annum for first six months and £120 per annum for second six months, with board and residence.

MIDDLESEX HOSPITAL, W.—Second Assistant in the Clinical and Bacteriological Laboratories. Salary £100 per annum.

NEWCASTLE-UPON-TYNE UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy. Salary from £120 to £150.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board and residence.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100, with board, lodging and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon both for six months. Salary at rate of 50 guineas a year, with board and residence.

ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £51 per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Resident House Physician (female), Resident House Surgeon (female), Assistant Anæsthetist (female), House Surgeon (male), Casualty House Surgeon (male). All for six months. Board, &c. provided.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon. Salary £100 per annum, with rooms, board, and washing.

ST. BARTHOLOMEW'S HOSPITAL.—Assistant Physician. Also Assistant Surgeon.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SMYRNA MISSION AND HOSPITAL (CHURCH OF SCOTLAND JEWISH MISSION).—Medical Missionary. Salary £250, with dwelling-house.

STAFFORD, COTON HILL LUNATIC HOSPITAL.—Assistant Medical Officer. Salary £125 per annum, with increase, board, lodging, and washing.

SUSSEX COUNTY HOSPITAL, Brighton.—House Surgeon, unmarried. Salary £140 per annum, with board and residence.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TORBAY HOSPITAL, Torquay.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

WESTMINSTER HOSPITAL.—Assistant Pathologist and Curator of the Museum. Salary 100 guineas a year.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician. Salary £100 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

EYRE.—On Sept. 30th, at Wandle House, Wandsworth Common, to Dr. and Mrs. Eyre, a son.

HILLIARD.—On Oct. 2nd, at Billericay, Essex, the wife of Francis P. T. Hilliard, M.A., M.D. Oxon., M.R.C.S., L.R.C.P., of a daughter.

MALCOLM.—On Oct. 6th, at 13, Portman-street, W., the wife of John D. Malcolm, F.R.C.S. Eng., of a son.

POWELL.—On Oct. 3rd, at Calverton Lodge, Stony Stratford, the wife of Cecil Powell, M.A., M.B. Cantab., of a son.

PIM.—On Oct. 2nd, at Beaminster, Dorset, the wife of Arthur A. Pim, F.R.C.S. Edin., of a daughter.

MARRIAGES.

DAY—GORDON.—On Oct. 3rd, at St. Luke's, Nightingale-lane, S.W., James John Day, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H., of Preston House, Sandwich, Kent, to Mabel Grace, second daughter of William John Gordon.

HOULBROOK—KELLETT.—On Oct. 5th, at St. Catherine's, Old Colwyn, North Wales, William Edward Houlbrook, M.R.C.S., L.R.C.P., to Caroline Hodgkinson, daughter of the late John Kellett and of Mrs. Kellett.

LANGMORE—JENKINS.—On Sept. 30th, at St. Luke's Church Tideford, Cornwall, by the father of the bride, Herbert Richard Langmore, M.B., B.C. Cantab., to Sonia, elder daughter of the Rev. D. Jenkins.

DEATH.

DUHIG.—On Sept. 30th, 1903, at Little Langtons, Hornchurch, Essex, John, the son of David John Duhig, aged four months.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SIX YEARS OF MEDICAL JOURNALISM—A RETROSPECT.

THE October number of the *Scottish Medical and Surgical Journal* contains a lengthy and amusing article under the above heading written by an American, Dr. James C. Johnston, recently editor of the *Journal of Cutaneous and Genito-Urinary Diseases*. In this lifting of a corner of the journalistic veil it therefore happens that the phraseology and some of the allusions give evidence of their Transatlantic origin. Several of Dr. Johnston's paragraphs we can only mention, as considerations of space forbid quotation. Among these are criticisms on over-production in medical journalism, on anonymous correspondence, on reports of societies, and on the "publisher's department." This last is an unfortunate feature of some American medical journals and consists of puffing notices of pharmaceutical products. This portion has usually, if not always, a separate pagination from the rest of the journal so that there should be little risk of the paragraphs being taken for editorial opinions, but as far as possible editorial style or the style of original communications from medical authors is imitated. Dr. Johnston also gives a pathetic description of editorial troubles caused by the shortcomings of authors, such as verbosity, incorrect quotations, incorrect references, and unwillingness to conform to special usages of phraseology, spelling, and so forth. Let us now hear the editor himself, with the reservation that sentences are omitted here and there and with the reminder to our readers that our own experiences, though they tally in some respects differ in others.

Original articles.—Two motives, in the main, lead a man to present his views to the public. They are that he wishes to add a mite to the sum total of knowledge, or that he wishes to gain a reputation, vulgarly speaking, to advertise himself in the only way legitimately open to him. Both are entirely worthy, but both are subject to perversion. In the first case he may not be able to judge of the value of his own work; he may be so young that enthusiasm betrays him into error (this type of youth has been known to last for 50 years), or his experience may not be sufficient to justify a hearing at all. Few workers' activities are perennial like Virchow's and it is not too much to say that medical men do their best work before 50. This is the point at which the editor should appear as counsellor and friend and advise a postponement or a touch here, an amplification, verification, or condensation there. His efforts are often taken amiss and the manuscript is withdrawn by the indignant author for publication elsewhere. My experience is that nothing occasions an author more annoyance than the return of his article; but when the thing is hopeless, it must be done. Let me say that the editor gathers no great pleasure from the proceeding; in fact, it is the most difficult thing he does. A nice editorial discrimination is required in the case of a man who writes for reputation. If he has something worth hearing, by all means let him have his opportunity no matter what his reputation for advertising. If he dashes madly into print with the result of a Bottini operation before the knife is cold, or because he has found a few cell inclusions, and thinks they prove parasitism as the cause of cancer, plead with him as a brother. If he will not listen, pass him on to another editor. His feelings cannot be hurt. His next dash will be wilder, if possible. Killing is altogether too good for the man whose object is to puff a proprietary preparation under the guise of a contribution to science or who sends his article to all the journals he knows of at once and prays for an immediate hearing. Fortunately the game can never be played but once, even when the culprit is a genius like the one who recently secured admission to 20 journals. It is possible for an editor to joke about these things when his race is run, not before.

Perhaps the worst of the lot is the thief (no need to mince matters) who steals another's work, his cases, his methods, even his photographs. The editor knows nothing of the matter until he hears from the victim; of course the harm is done, for the article is printed. He makes what amends he can, knowing himself innocent, but the wrong seems without redress. No one pays any attention to the owner's claims after the fact. They are laid to jealousy and dismissed. Sub-varieties of this genus are those who carefully compound articles from quotations, minus the marks or plus them, as the case may be, and those who polish old jewels of wisdom and offer them as new. These two are not insidious like the first and may be dealt with gently and firmly.

A word as to titles. Let the author remember the unfortunate whose evil state forces him to make the volume's index and, remembering, not make his title a synopsis of his communication. It is enough to tell a reader whether the subject attracts him. If one or two words will do so much the better; but it is entirely possible for the caption to be misleading when the error is on the side of brevity.

Book Reviews.—There is one desideratum in a book review, and that is to tell the truth about the book. When it comes to the editor's desk he does one of two things with it—he reviews it

himself if he has time, or he sends it to someone he thinks fitted for the task. If he selects the latter course he does so in fear and trepidation. Time goes on and no review materialises. After a few months the publishers politely request to know if there is any likelihood of a notice ever appearing. After several notes, interviews and telephone conversations, the review is sent. It is evidently written from the preface, is perfunctory, and winds up with: "This work deserves a place in every library." It goes in and the editor hates himself.

Occasionally he gets a surprise and the reviewer makes his comments in fine style. The author is never pleased, but that is beside the issue. The best reviewer is one who not only knows the subject but has written on it, if possible, a book. His justice is then tempered with mercy and he writes with authority as well as infinite sympathy. What he says may go a long way if he signs the review, a good practice in most instances. The average critic thinks his work done when he has picked all the flaws he can find. If there are mistakes, misprints or omissions, by all means let them be pointed out, because these points are helps in preparing a new edition, but it is not possible that any work on medicine is wholly composed of error. Destructive criticism is about the easiest of literary pyrotechnics, and, while it may be a choice spectacle, there is nothing left but acrid smoke. Indiscriminate praise is no better. When the work is a monograph on one topic a good plan, instead of reviewing it in the ordinary sense, is to give the gist of its contents with a comment or two.

Abstracts.—I served my time, five years, in the making of abstracts, and there is nothing, except the index, for which I have greater loathing. Someone must do it. The question is, Who? We must abstract from Russian, Polish, and Scandinavian tongues if we can; must be able to winnow wheat from chaff, make it readable, and compress the work of ten years into not more than 500 words. It is not too much to say that every abstract, properly done, represents from two to three hours' time. Count up the years contained in the single issue of the *Philadelphia Medical Journal* of Dec. 13th. If an article is worthless it can be dismissed in two lines but the mind that weighs it should be judicial. The polyglot genius with medical training who can weigh evidence and sum it up does exist. There are several of him in my ken, but so far as my experience goes he works when he lists, sometimes for glory, sometimes for the love of it, and sometimes for money or the journals. Whatever the motive the reader is his debtor but his word should not be taken as gospel. Quite as useful as the man who pursues original lines of investigation is he who presents an able critical summary of the results of that work. Small thanks he ever gets for it.

I have not touched upon the department of news, for presenting that is a function of the medical newspaper and not of the special journal. The same I hold to be true of editorial writing. It may not be entirely well to tell professional secrets, but there are many difficulties in the making of a magazine which its subscribers seem not to appreciate. I shall have accomplished my object if there comes that better understanding between them and the gentlemen in editorial chairs of which I have spoken.

We have read Dr. Johnston's editorial experiences with interest.

THE DISAPPEARANCE OF MISS HICKMAN.

WE have been asked by Mr. Hickman to state that he does not believe his daughter to be confined in a house of ill-fame but rather in some institution like a convent. With regard to the suggestion of opening a subscription among medical men with a view to increasing the reward offered for the discovery of Miss Hickman we have received from a correspondent writing above the initials "A. E. W." the following letter:—

> "There must be many who, like myself, would welcome the opportunity to subscribe towards such an object. A far larger reward than at present offered might result in most important information, and especially would this be likely if the informant was assured of free pardon on giving 'King's evidence.' Apart from humane considerations we must remember that if *efforts* are relaxed to solve the mystery of a suspected heinous crime it is a victory for the criminal classes and consequently a menace to society at large. In this case it would especially constitute a menace to the safety of the medical profession."

Our correspondent offers to send a subscription of one guinea and to double his contribution when £100 have been promised.

SWEDISH EXERCISES.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if one of your correspondents would kindly favour me with the address of the institution where a course of Swedish exercises and gymnastics can be carried out.

I am, Sirs, yours faithfully,

Oct. 6th, 1903. X. Y. Z.

PRECOCIOUS MISCHIEF.

A CORRESPONDENT writes: "I have been attending a little boy who is a veritable demon for mischief of every description. He is only two years and seven months old but stronger and more intelligent than children usually are at that age. Recently he dismembered a harmonium in order to convert the keys into playing-bricks, utterly ruining the instrument. His last exploit was to strip his baby sister naked and to daub her all over with green paint from a pot which had been incautiously left within his reach. 'When I came in and saw the poor child,' said the mother, 'I sat down and cried.' She scrubbed the paint off the infant with soap and water. The infant must have suffered great agony for most of her epidermis had accompanied the paint. The bodily temperature of both the children is peculiar. In health it does not exceed 97° F. When the boy had pneumonia it rose to what we are accustomed to call normal. The pulse in both infants is unusually slow. Can there be any connexion between his low temperature and the boy's mischievous disposition? The little girl has not as yet shown herself to be abnormally destructive. The parents, a young couple, are in no way out of the common."

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—I shall be glad if some of your correspondents would give me the benefit of their experience in the use of the motor-car for working a country practice. What make of car is most suitable at a moderate price? Are motors reliable for medical work? And is the expense heavy connected with running them? The roads in my district are fairly good in the summer but decidedly heavy and somewhat rough in the winter months, with few hills.—I am, Sirs, yours faithfully,

Oct. 5th, 1903. GENERAL PRACTITIONER.

*** The subject of motor-cars for medical men has been much discussed in our columns, but as after all the motor manufacturing trade is in its infancy and constantly undergoing developments it will perhaps be well to invite correspondents to make replies. "General Practitioner" may thus obtain the latest information in answer to his questions.—ED. L.

THE PUMICE FILTER TOBACCO PIPE.

SINCE we inserted a description of this pipe in THE LANCET of Sept. 19th, p. 850, several correspondents have written to know where it can be obtained. We shall be obliged if the makers will kindly send to us their address.

WANTED—A SCHOOL.

To the Editors of THE LANCET.

SIRS,—Can you or any of your readers kindly inform me if there is a school where the daughters of a medical man (who having died and left a widow and two daughters unprovided for) could receive free education or where they would be taken at reduced fees?

I am, Sirs, yours faithfully,

Oct. 5th, 1903. LIBERIA

Enquirer.—Our correspondent should apply to the honorary secretary of the Society for the Study of Inebriety, Dr. T. N. Kelynack, 120, Harley-street, London, W., or to the honorary secretary of the British Medical Temperance Association, Dr. J. J. Ridge, Carlton House, Enfield, Middlesex.

Bicycle.—Bicycling, unless carried to an injurious degree, has no bad effect upon the menstrual periods. If indulged in, however, during the period it tends rather to increase the amount of the flow. Any standard work on gynæcology gives details as to the treatment of amenorrhœa.

Ignoramus.—The change of address can be advertised with discretion once or twice, while a circular letter to all patients on the books at the time of removal is in order.

Old Student.—Our correspondent had better communicate with the secretary of the Sanitary Institute, Margaret-street, Regent-street, London, W.

X. Y. Z. (Ipswich) has not inclosed his name and address. In doing so he should also forward the rules of the association.

X. Y. Z. (Castle Cary).—We will endeavour to do so. We presume that the assistant was unqualified.

Delta.—We should think that the books mentioned would be quite sufficient.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 8th, 1903.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Oct.	2	29·75	W.	...	106	65	54	54	56	Cloudy
"	3	29·67	S.W.	0·01	109	68	56	60	62	Overcast
"	4	29·65	W.	0·20	104	65	56	59	61	Cloudy
"	5	29·53	S.W.	0·46	77	63	56	60	61	Overcast
"	6	29·70	S.W.	0·25	66	64	54	56	58	Raining
"	7	29·84	WNW	0·19	89	64	55	54	57	Cloudy
"	8	29·60	S.W.	0·04	88	64	57	60	61	Overcast

During the week marked copies of the following newspapers have been received: *Western Daily Mercury, South Western Star, Battersea and Wandsworth Advertiser, Eastern Daily Press, Tyldesley Weekly Journal and Atherton News, Cork Constitution, Belfast News Letter, Birmingham Post, Aberdeen Free Press (Weekly), Brighton Gazette, Surrey Advertiser, Bristol Mercury, Dublin Express, Morning Post, Hereford Mercury, Daily Graphic, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, Burton Chronicle, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.) Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (12th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M. General Meeting. 8.30 P.M. Ordinary Meeting. Dr. F. de Havilland Hall (President): Opening Address. Dr. G. A. Gibson (Edinburgh): Adaptation and Compensation (with lantern demonstration)

TUESDAY (13th).—SOCIETY FOR THE STUDY OF INEBRIETY (Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W.).—7.30 P.M. Council Meeting. 8 P.M. Discussion on the Institutional Treatment of Inebriety (opened by Sir William Collins).

MEDICO-LEGAL SOCIETY (20, Hanover-square, W.).—9 P.M. Annual Meeting.

WEDNESDAY (14th).—SOUTH-WEST LONDON MEDICAL SOCIETY (Bolingbroke Hospital, Wandsworth Common).—8.45 P.M. Dr. P. J. Freyer: Some Practical Points in the Treatment of Enlarged Prostate.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Dr. W. Hale White: Some Clinical Considerations concerning Enlargement of the Heart.

THURSDAY (15th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware road, W.).—8.30 P.M. Clinical Evening. Cases will be shown by Dr. W. J. Harris, Mr. P. L. Daniel, Mr. T. Crisp English, Mr. F. Jaffrey, and Mr. E. L. Evans.

FRIDAY (16th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Hotel Cecil, Strand, W.C.).—5.30 P.M. Papers:—Mr. *R.* C. Lucas: Strangulated Hernia in an Infant.—Mr. J. H. Chaldecott: Chloride of Ethyl Anæsthesia.—Mr. A. Carless: Cases of Lymphangeiomata.—Dr. J. P. Parkinson: Paralytic Chorea.—Mr. J. J. Clarke: Association of certain Deformities with Affections of the Throat.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (13th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M. Sir William Church: Medical Education and Post-Graduate Study.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Sir W. Gowers: Rheumatism and the Nervous System.

WEDNESDAY (14th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine. (First Lecture.)

THURSDAY (15th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Hernia. (First Lecture.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Dr. Roberts: Cases from the Wards.

CHARING CROSS HOSPITAL.—4 P.M. Mr. S. Boyd: Surgical Cases. (Post-Graduate Course.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Dr. R. M. Leslie: The Value of Symptoms in Thoracic Disease.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Lees: Lecture Demonstration on Pericarditis.

FRIDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. C. Williams: Electro-Therapeutics.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Collier: Methods of Examining Cases.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

Communications, Letters, &c., have been received from—

A.—Association of Medical Men Receiving Resident Patients, Bournemouth, Hon. Secretary of; Association of Public Vaccinators of England and Wales; A. R. H.; Dr. J. M. Atkinson, Hong-Kong; Messrs. Armour and Co., Lond.; Messrs. Arnold and Sons, Lond.; Messrs. Allen and Hanburys, Lond.

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